Monthly and Seasonal Mean Analyses

December, January, February
1989/90

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Monthly and Seasonal Mean Analyses

December, January, February 1989/90

Mean fields obtained from the archive of operational analyses

Met O 20 (Dynamical Climatology Branch)
Meteorological Office
London Road
Bracknell
Berkshire RG12 2SZ

May 1990

Note: Permission to quote from this document should be obtained from the Assistant Director of the above Meteorological Branch.

Monthly and Seasonal Mean Analyses

Introduction

The archive of operational analyses contains a continuous record of global analyses every 12 hours (00 and 12 GMT) from May 1983 onwards. They are copies of the update analyses produced in the operational numerical weather prediction system using the 15-level model (Bell and Dickinson 1987). In this booklet there are presented monthly and seasonal mean fields computed from the archived analyses for a single season. Since a season spans three calendar months, there are four sections. Sections 1, 2 and 3 contain charts of the monthly mean fields for each month, and section 4 contains charts of the seasonal mean fields. The seasonal means are the means of the fields in the first three sections, weighted according to the number of days in each month.

Each section contains a set of charts for the northern and southern hemispheres and a set for the tropics. In each hemisphere, polar stereographic projects have been used to prepare a chart of pressure at mean sea level and composite charts showing both height (contours) and wind (vectors and isotachs) at 850, 500, 250 and 100 mb. In the tropics the charts are presented on a latitude–longitude projection encircling the globe in three sections covering the longitudes 0°–120°E, 120°E–120°W and 120°W–0°. This projection has been used to produce a series of charts of wind vectors and isotachs at 850 and 250 mb. On all charts, contours are depicted as solid lines, wind vectors as arrows and isotachs as dashed lines.

When archiving was first undertaken, for May 1983, global fields were stored according to their coefficients in a series of spherical harmonics up to a triangular truncation of T40 (Swinbank 1984). Since this is roughly equivalent to a latitude–longitude grid with a resolution of 4.5° by 4.5°, the conversion from the model's standard grid of 1.5° by 1.875° to the spectral representation results in some smoothing of the fields. Subsequently, a new method for storing the archived fields was developed as a result of discussions within the Working Group on the Development of the Operational Suite (WGDOS). This method uses a compressed digital coding of the original model field, on its standard latitude–longitude grid, but with fewer significant figures (Lowther 1986). It was implemented on 18 December 1985 in a limited version. After the inclusion of more fields, and following monitoring to ensure that the two representations (i.e. truncated spectral and compressed grid-point) of the archived analyses were consistent, the spectral archive was terminated on 31 October 1986.

The contents of the archives may be examined by consulting the computer data set 'M20.NARCHIND', where the tape number, file number and data set name for each archived day may be found. The fields in the spectral archive are stored in the format required by the post-processing (p-p) package. Details of the format and of the subroutines to be used for accessing the data are described in the manual for the p-p package. Some examples are shown in Swinbank (1984). The fields in the daily grid-point archive are stored as printfiles (Lowther 1986). A list of the fields in each of the two versions of the daily archive is given in the relevant documentation.

The monthly and seasonal mean fields have been computed from the spectral archive up to the end of October 1986. Thereafter, they have been computed from the grid-point archive. The mean fields are held as computer data sets in Met O 20, in spectral or grid-point format, as appropriate, and are available for general use. Means for each month and season over three years of the spectral archive are also available. The mean fields that are held are as follows:

Field		Pressure level (mb)
Westerly wind component	(m/s)	
Southerly wind component	(m/s)	1000*, 850, 700, 500, 400, 300,
Height	(dam)	250, 200, 150, 100, 70, 50
Temperature	(K)	
Relative humidity	(%)	1000*, 850, 700, 500, 400, 300
Pressure at mean sea level	(mb)	

* Fields at 1000 mb are held in the spectral archive. In the grid-point archive this level has been omitted and fields at 950 mb are held instead.

References

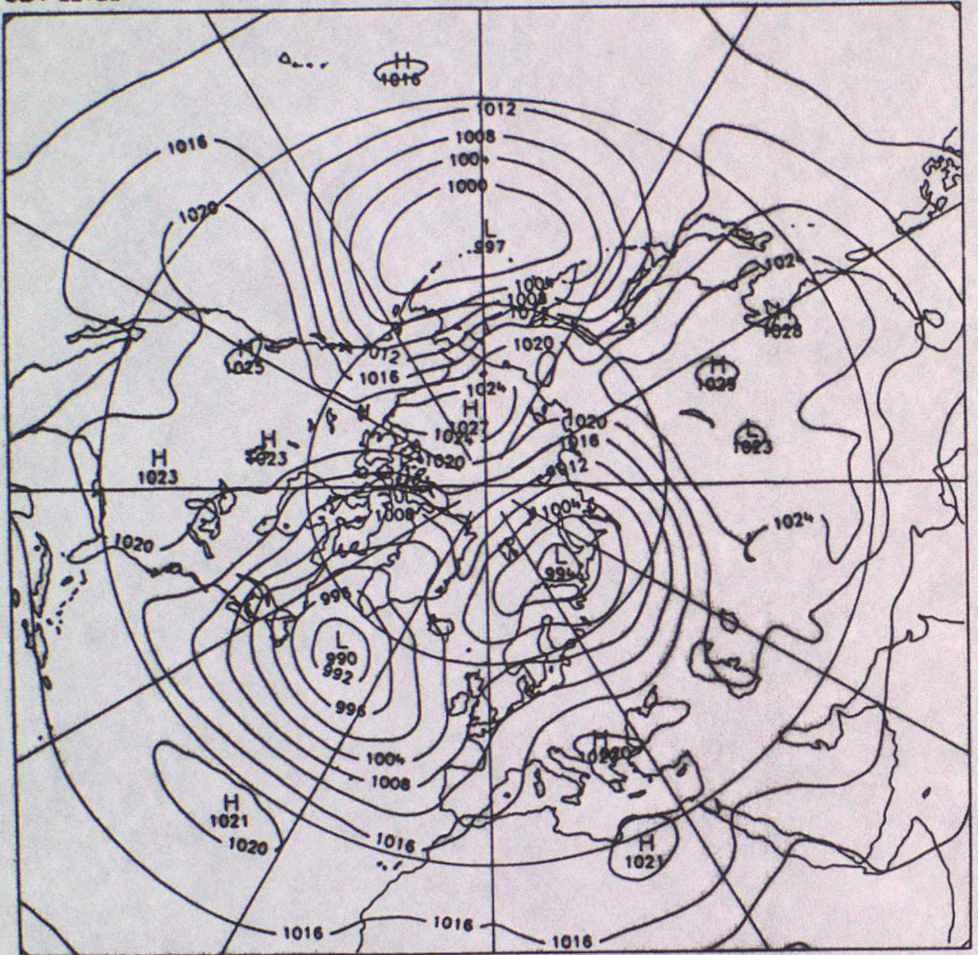
Bell, R.S. and Dickinson, A. 1987 The Meteorological Office operational numerical weather prediction system, Meteorological Office Scientific Paper No. 41, Met.O.979, HMSO.

Lowther, D. 1986 WGDOS Printfile Archive, Operational NWP Scheme, Documentation Paper No. 9.1, Met O 2b, Meteorological Office, Bracknell.

Swinbank, R. 1984 A system to archive operational analyses for research purposes. Met O 20 Technical Note No. II/218. Meteorological Office, Bracknell.

DECEMBER
1989

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
PMSL
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
SEA LEVEL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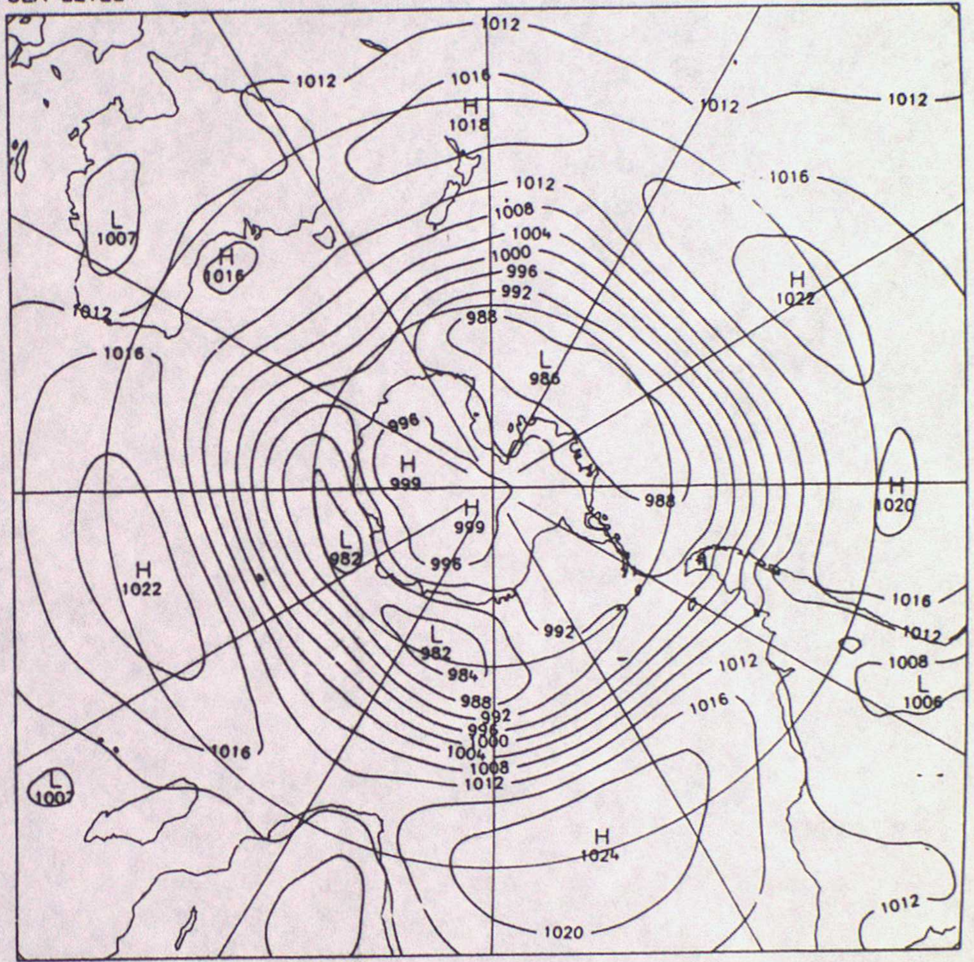
H 1021
1020
1016
H 1021

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
PMSL
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
SEA LEVEL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H 1022
H 1020
988
L 982
984
992
1016
1012
1008
L 1006
L 1007
H 1024
1020

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
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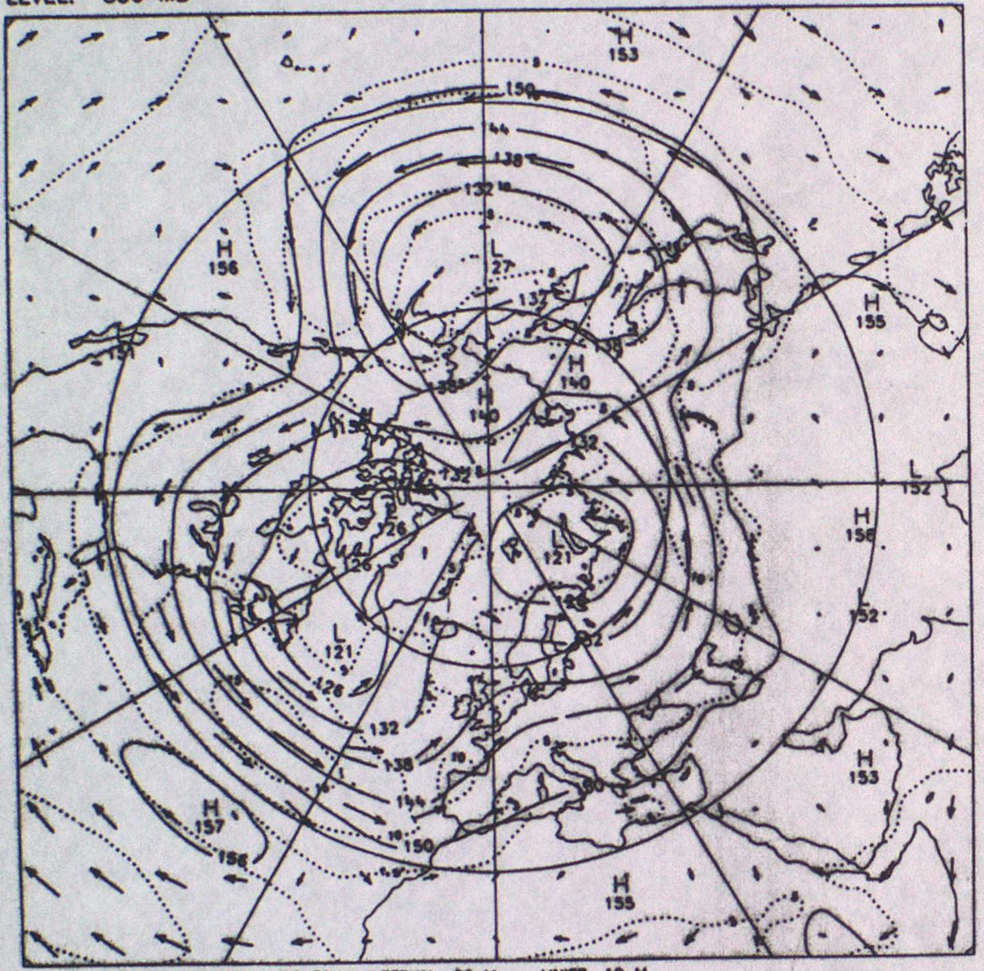
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H 157
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H 153
H 155

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
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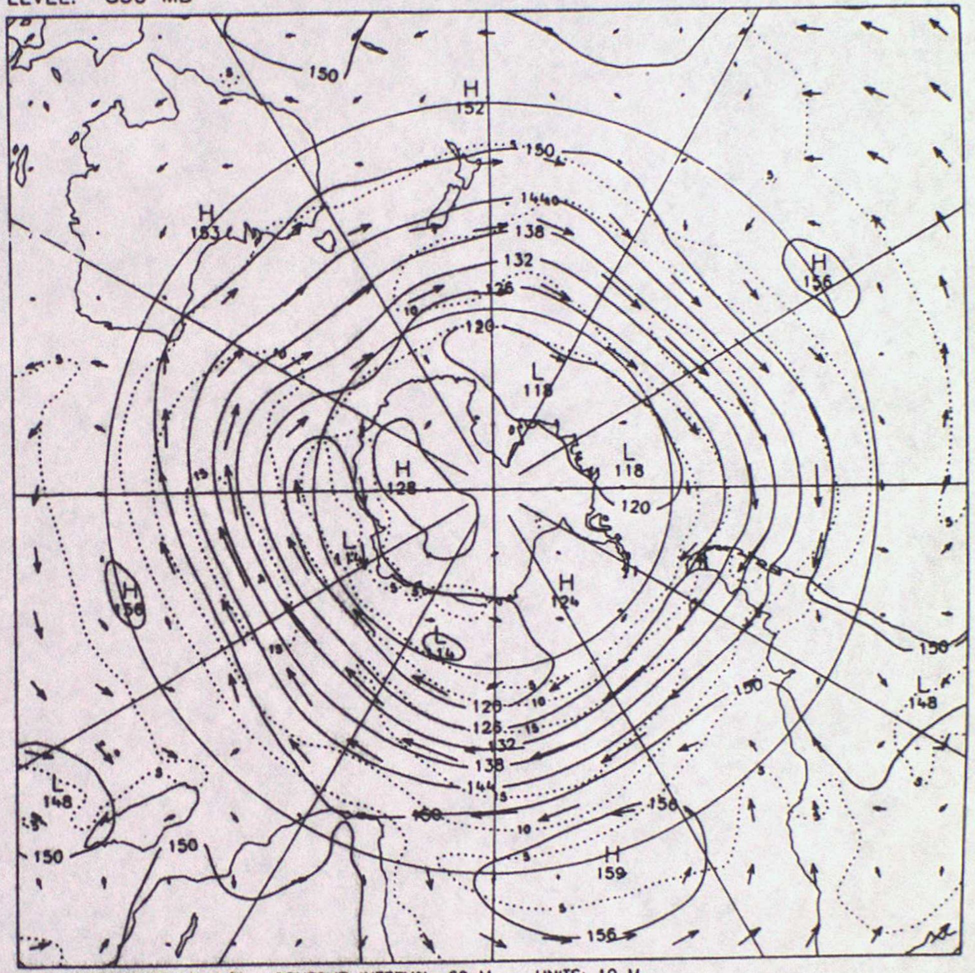
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→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
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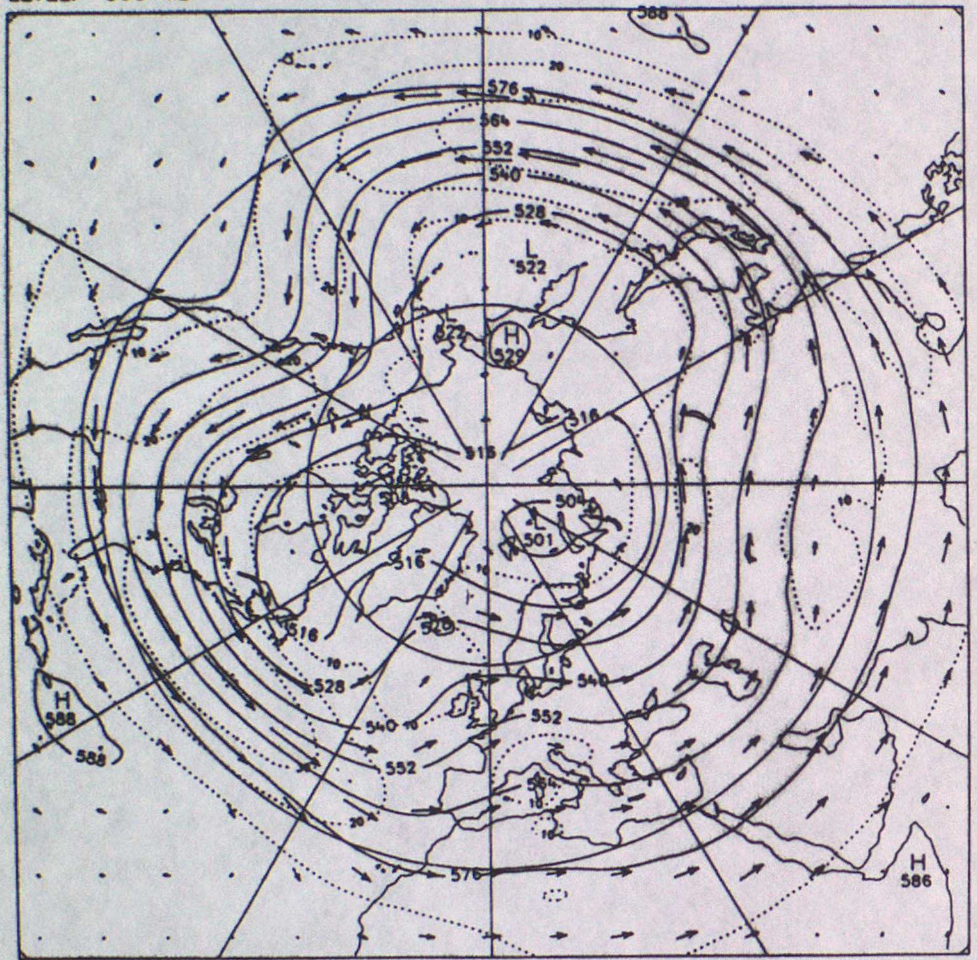
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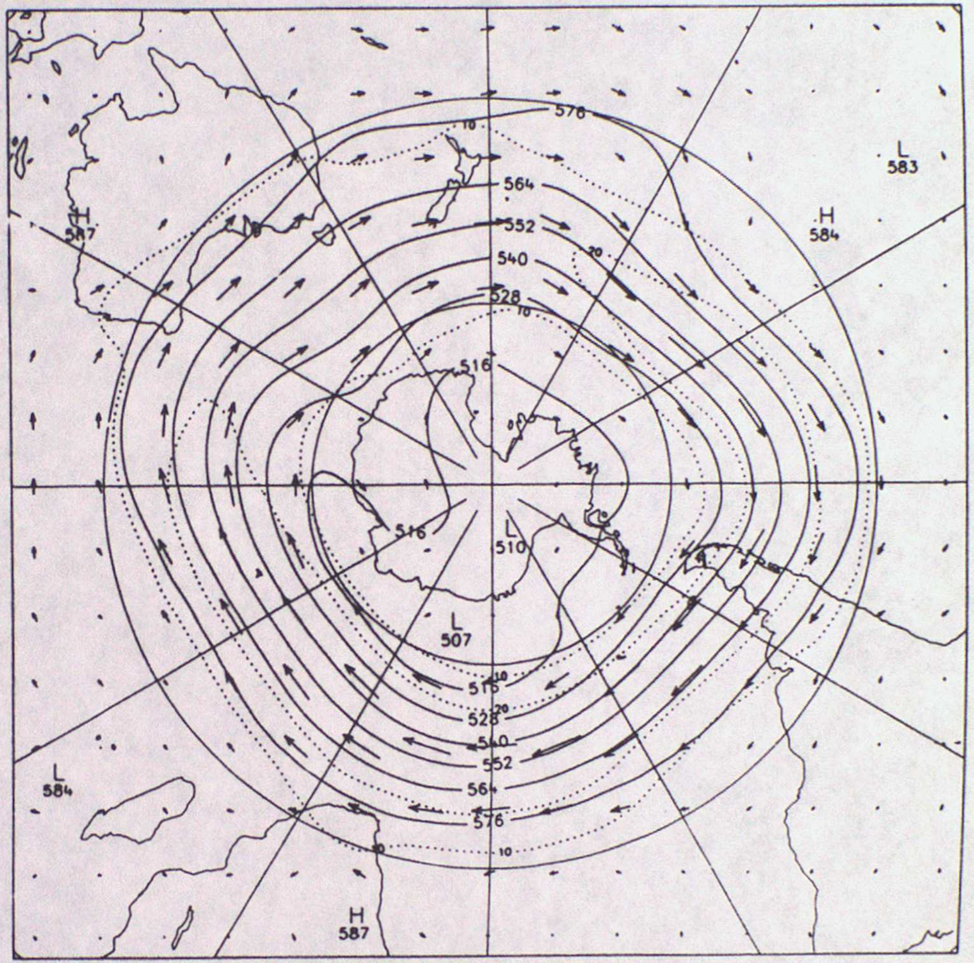
564
10
20
576
H
588
588
H
586

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
LEVEL: 500 MB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528
20
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552
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576
10
L
584
10
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587

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
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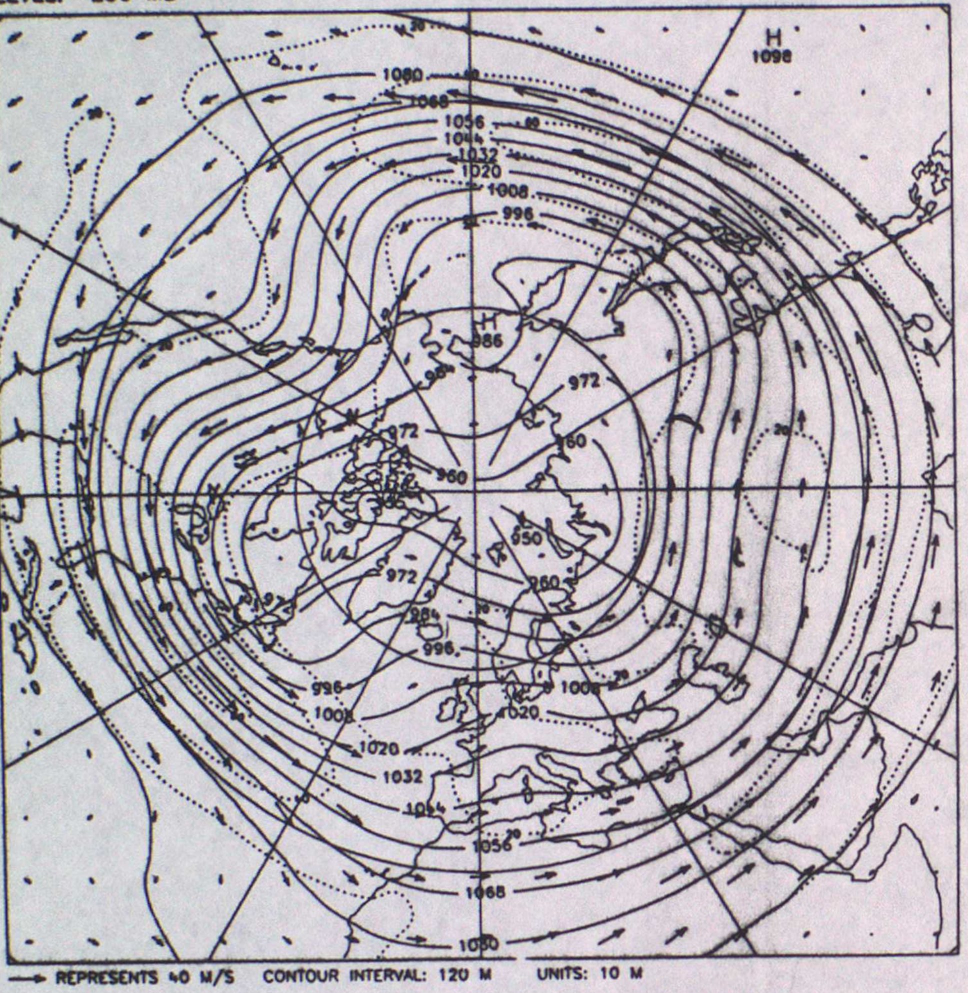
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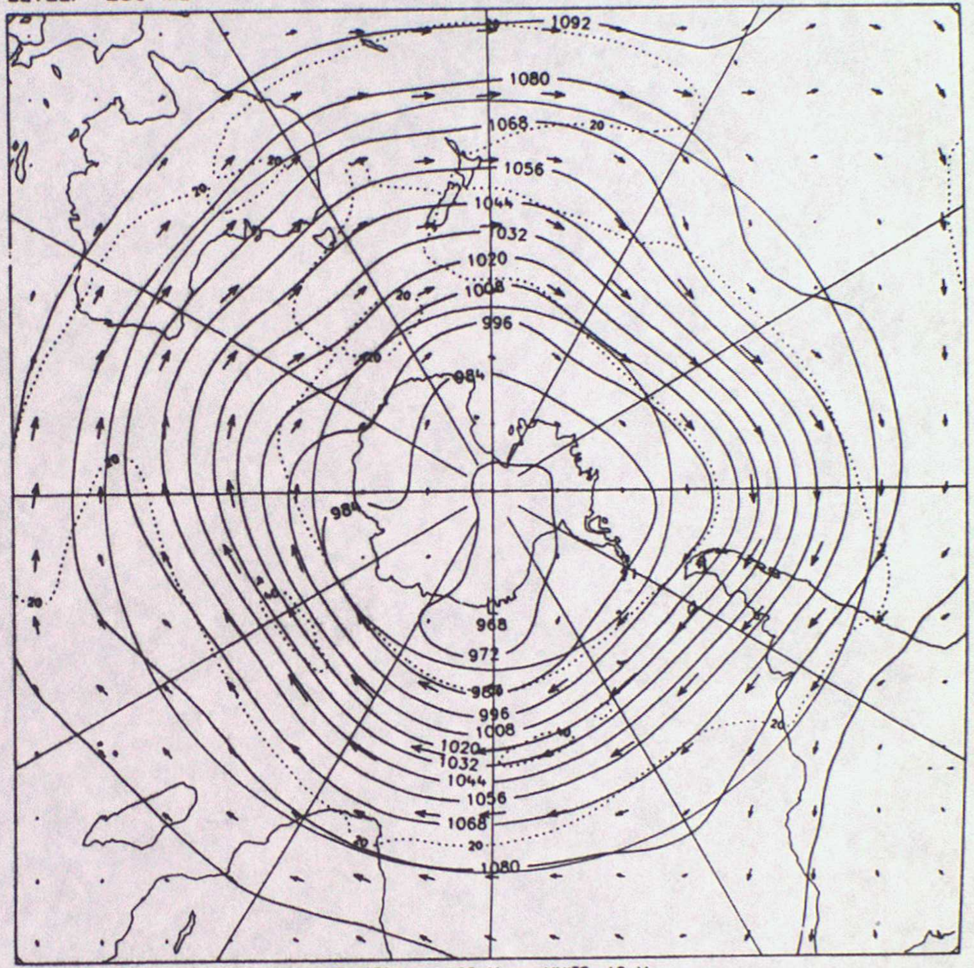
20

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
LEVEL: 250 MB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→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   DECEMBER   1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
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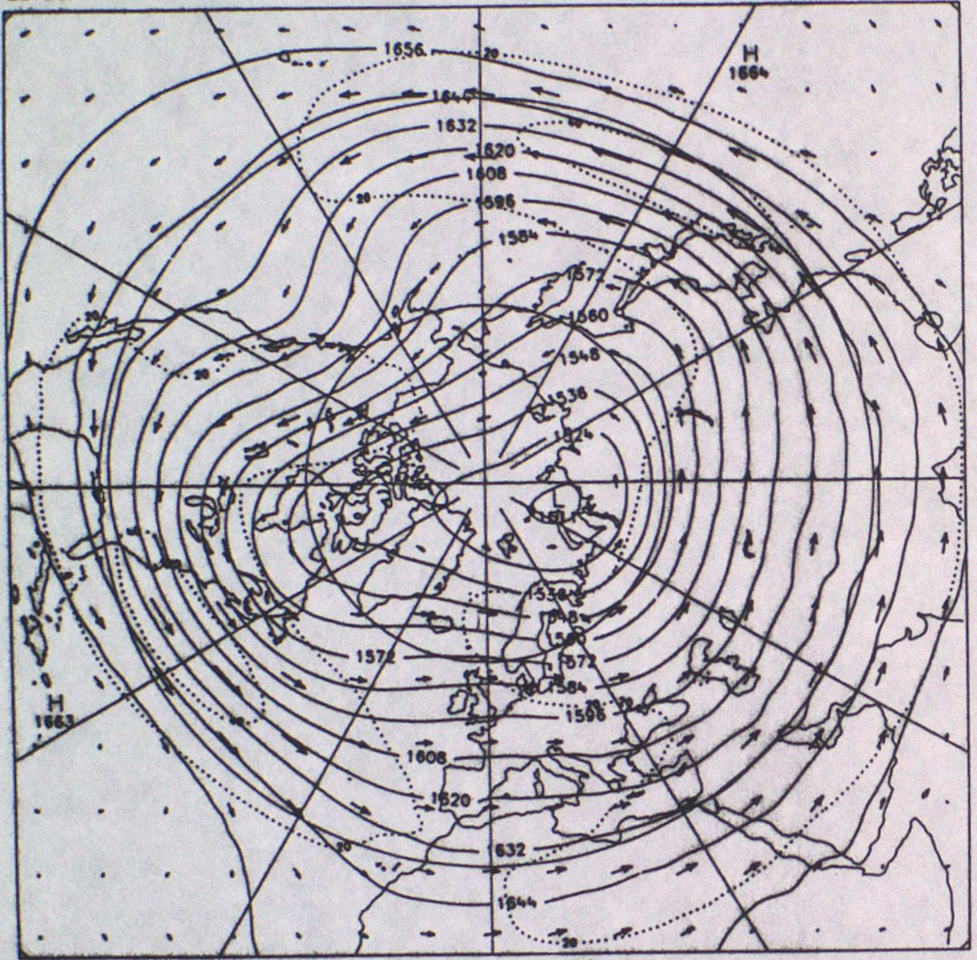
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1512
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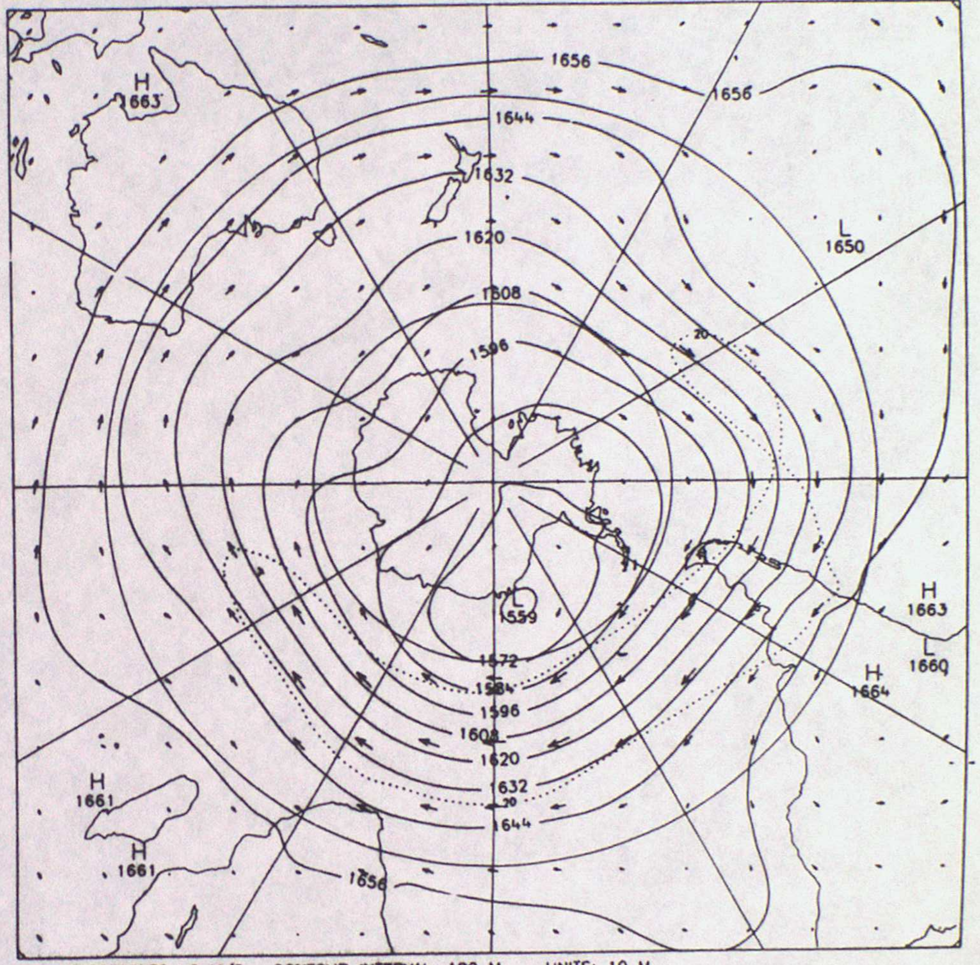
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   DECEMBER   1989
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
LEVEL: 100 MB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1661
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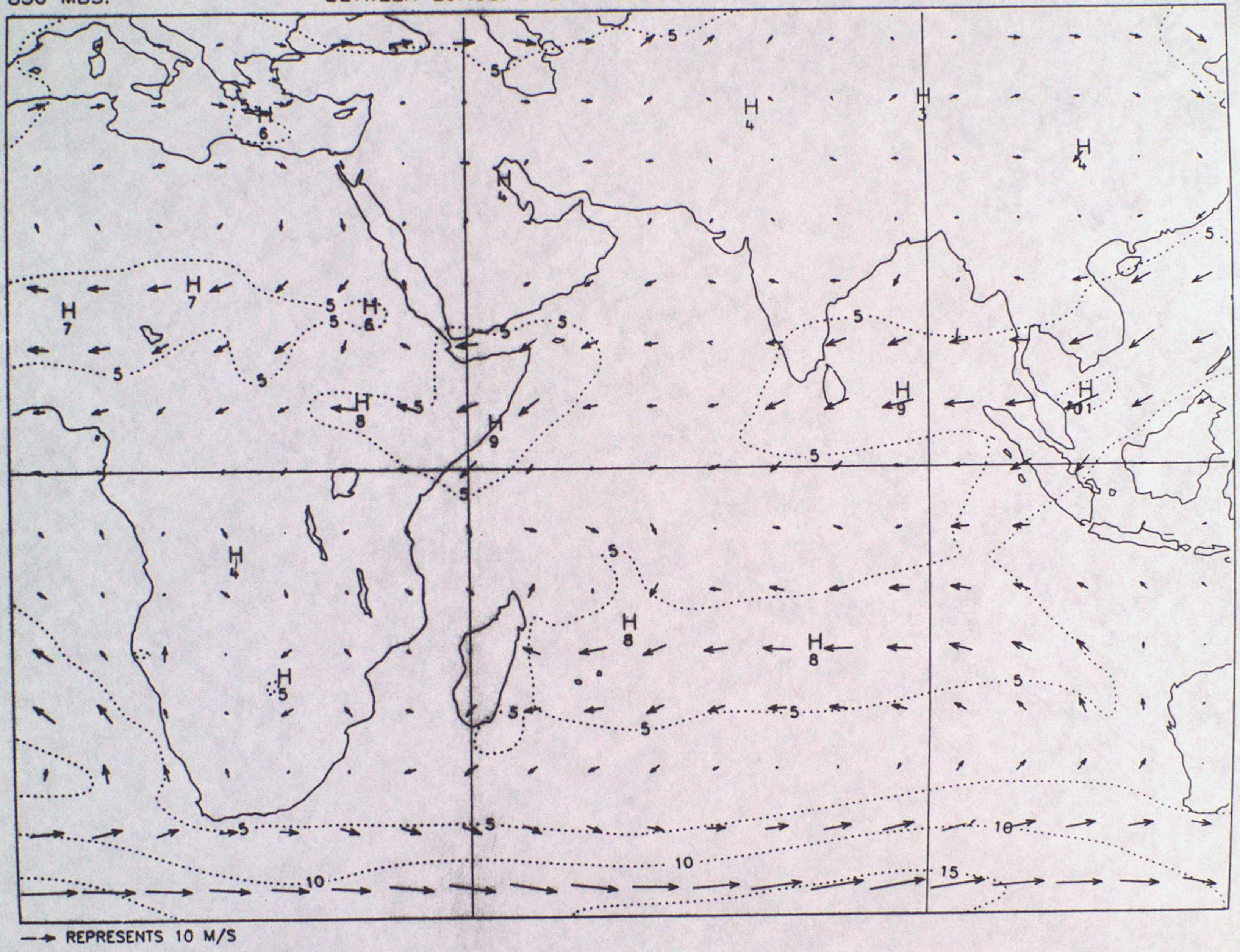
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
850 MBS. BETWEEN LONGS. 0 E - 120 E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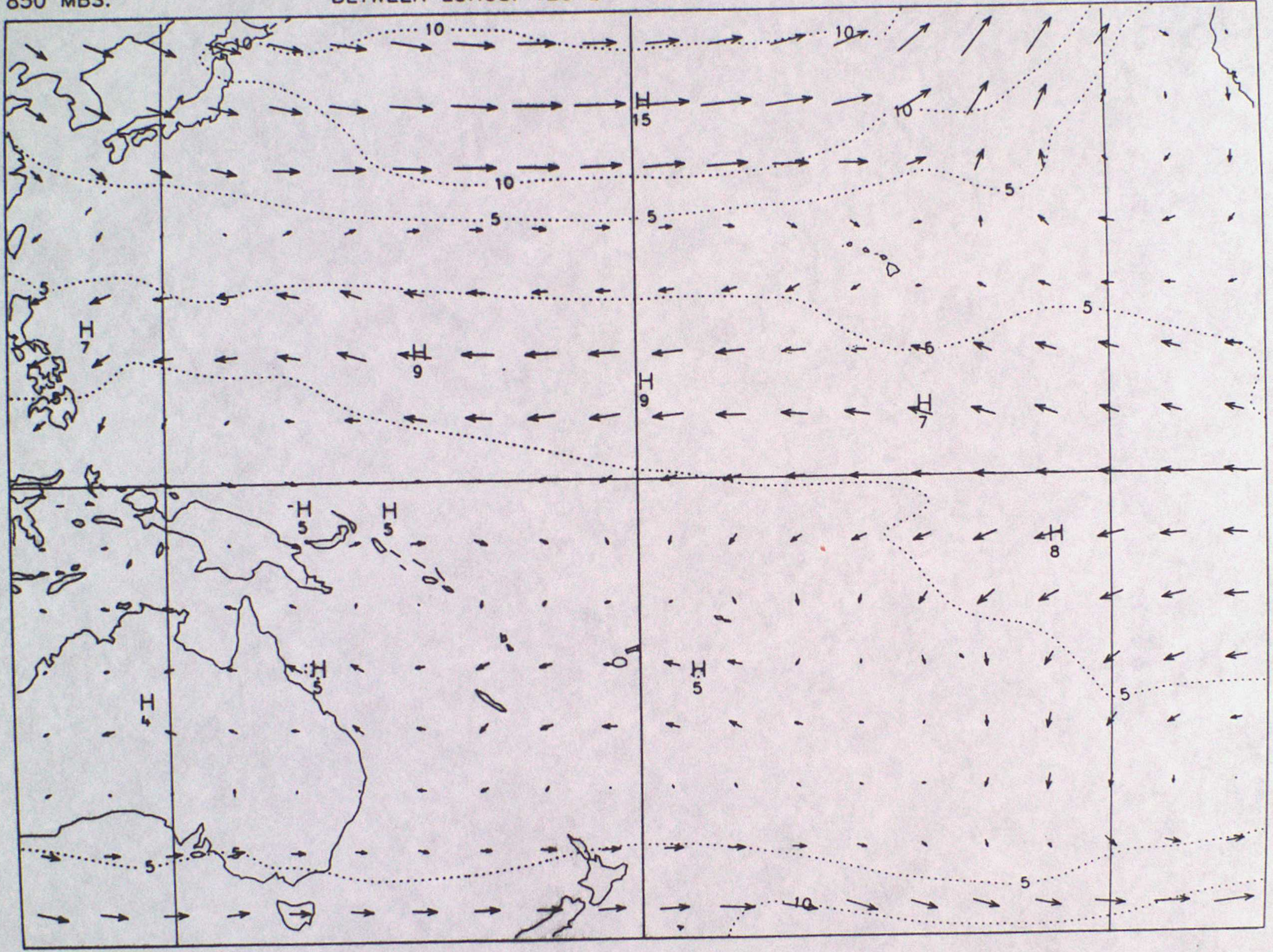
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   DECEMBER   1989
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
850 MBS.   BETWEEN LONGS. 120 E - 120 W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OPERATIONAL ARCHIVE MEANS.   DECEMBER   1989
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
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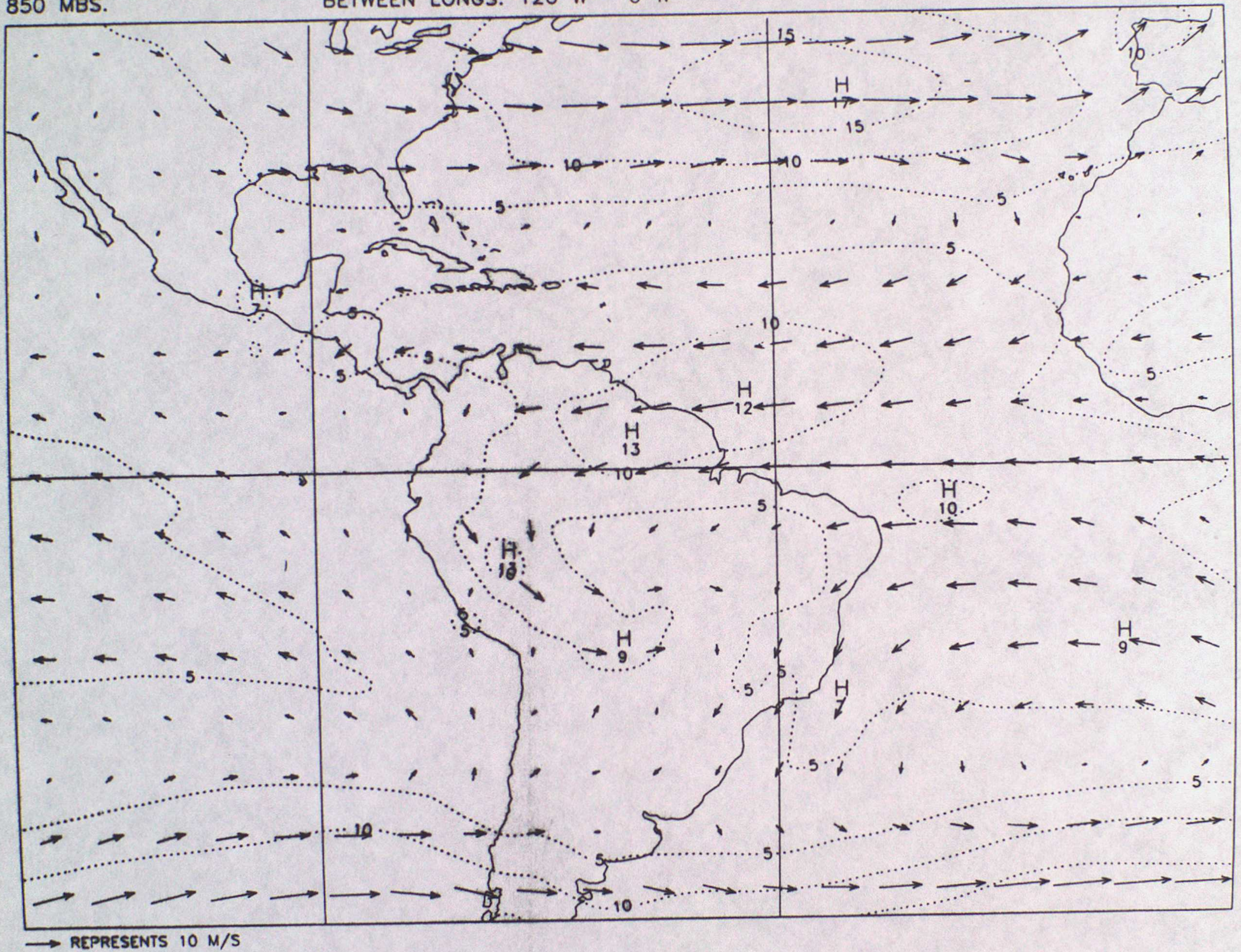
850 MBS.   BETWEEN LONGS. 120 W - 0 W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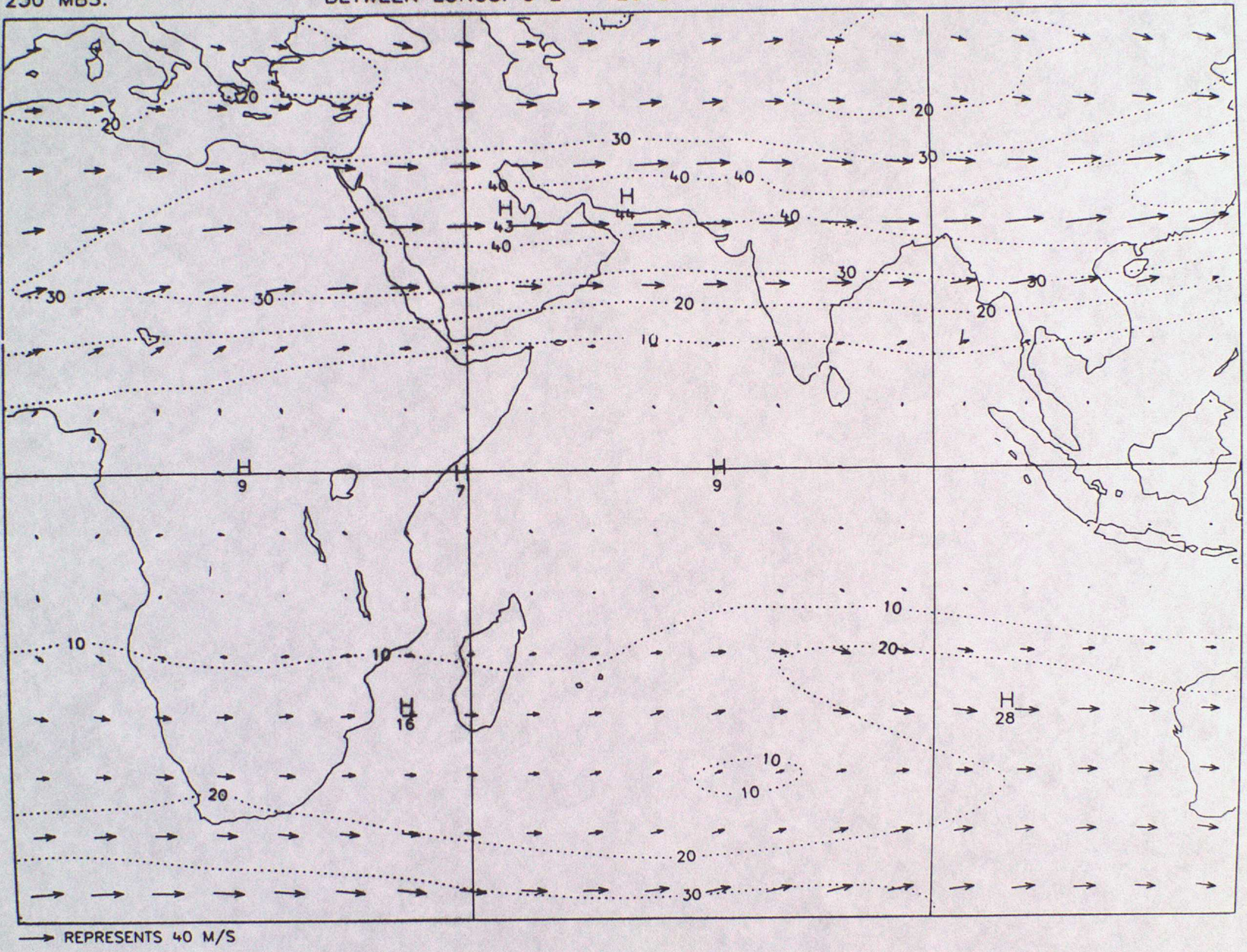
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
250 MBS. BETWEEN LONGS. 0 E - 120 E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→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS.   DECEMBER   1989
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
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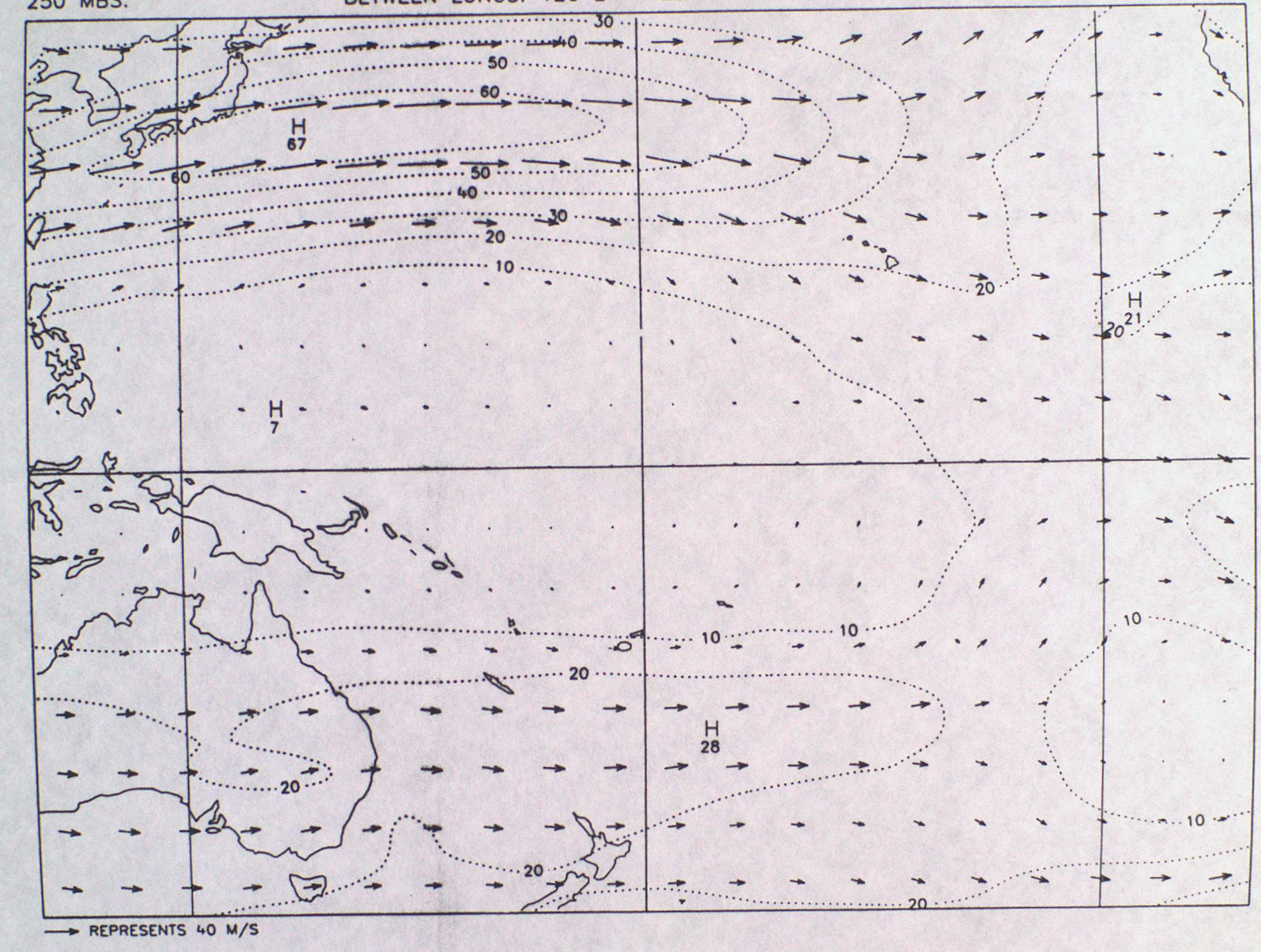
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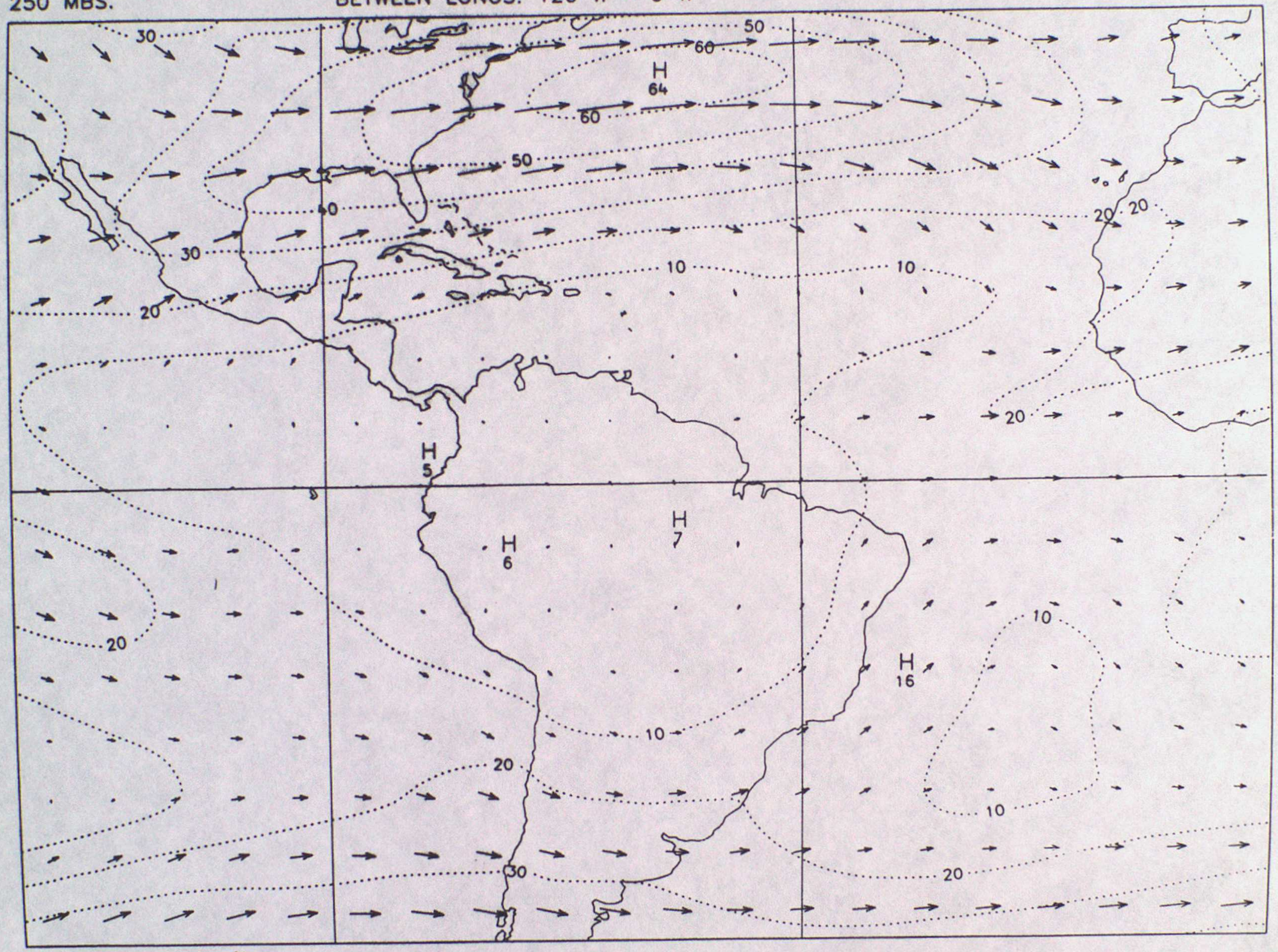
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. DECEMBER 1989
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 31/12/1989 DAY 365
250 MBS. BETWEEN LONGS. 120 W - 0 W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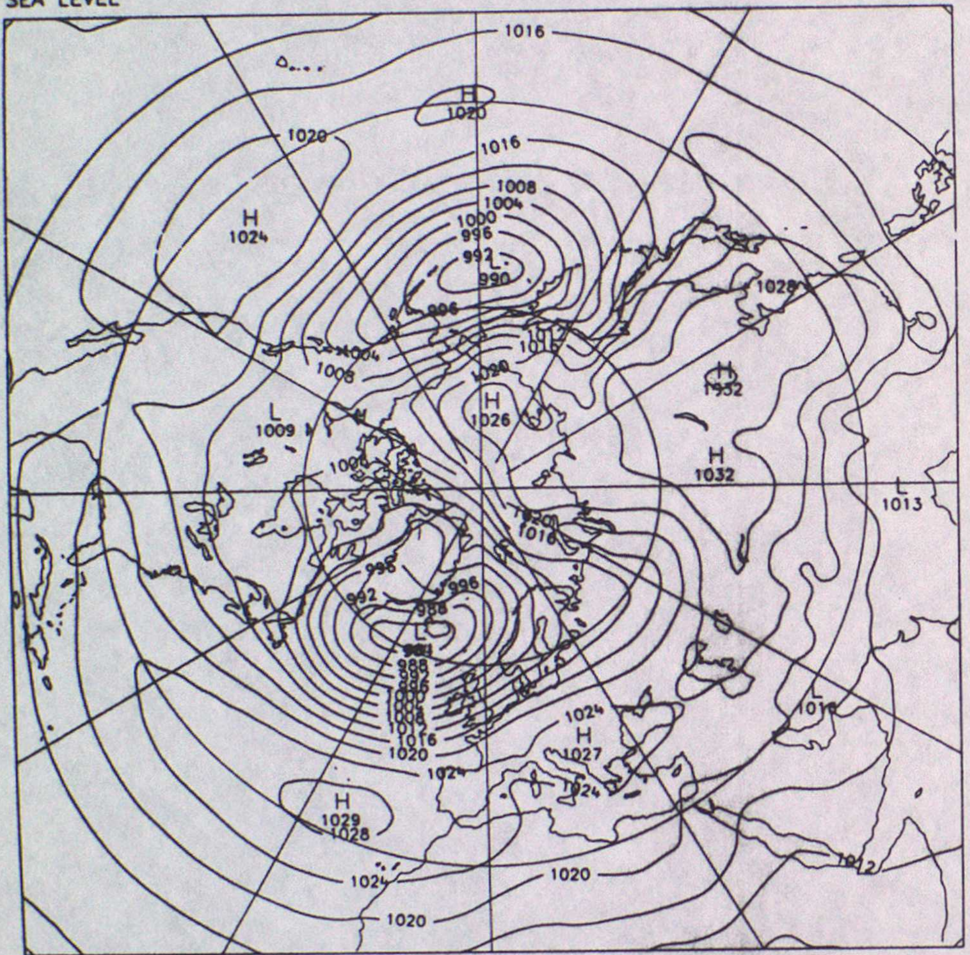
→ REPRESENTS 40 M/S

JANUARY
1990

OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
PMSL
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
SEA LEVEL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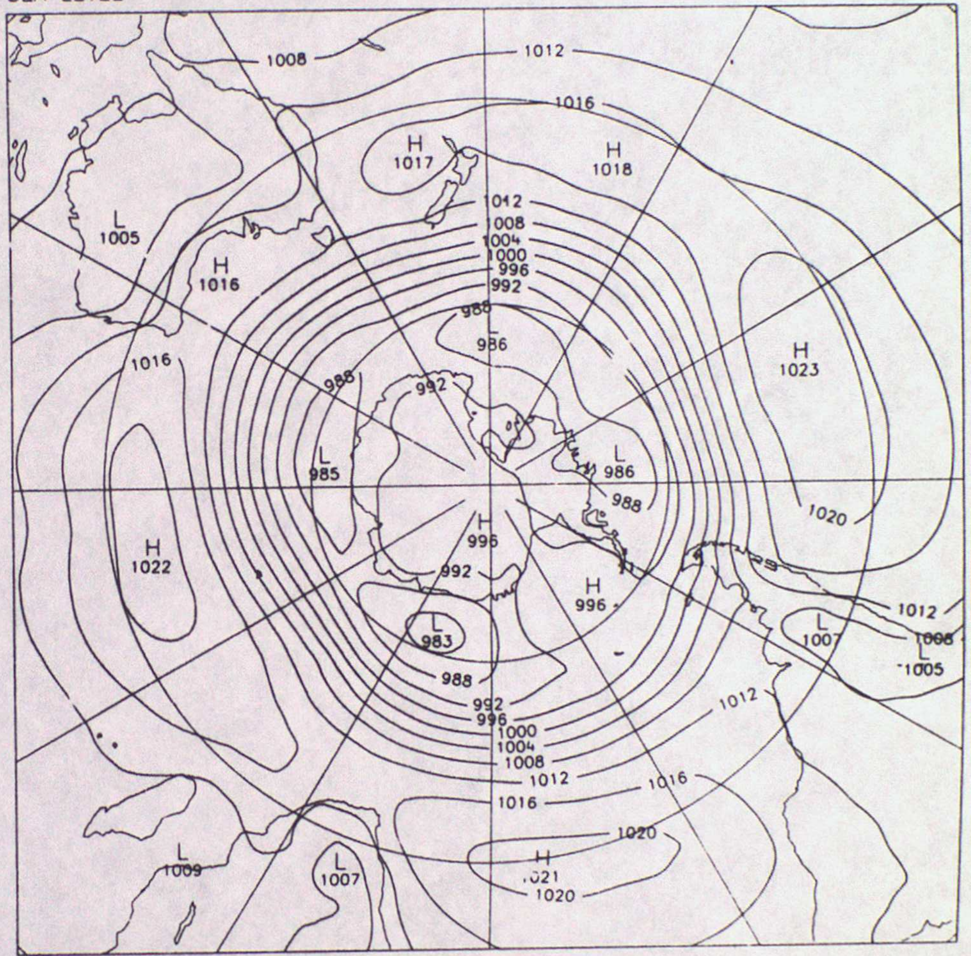
CONTOUR INTERVAL: 4 MB   UNITS: MB

OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
PMSL
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
SEA LEVEL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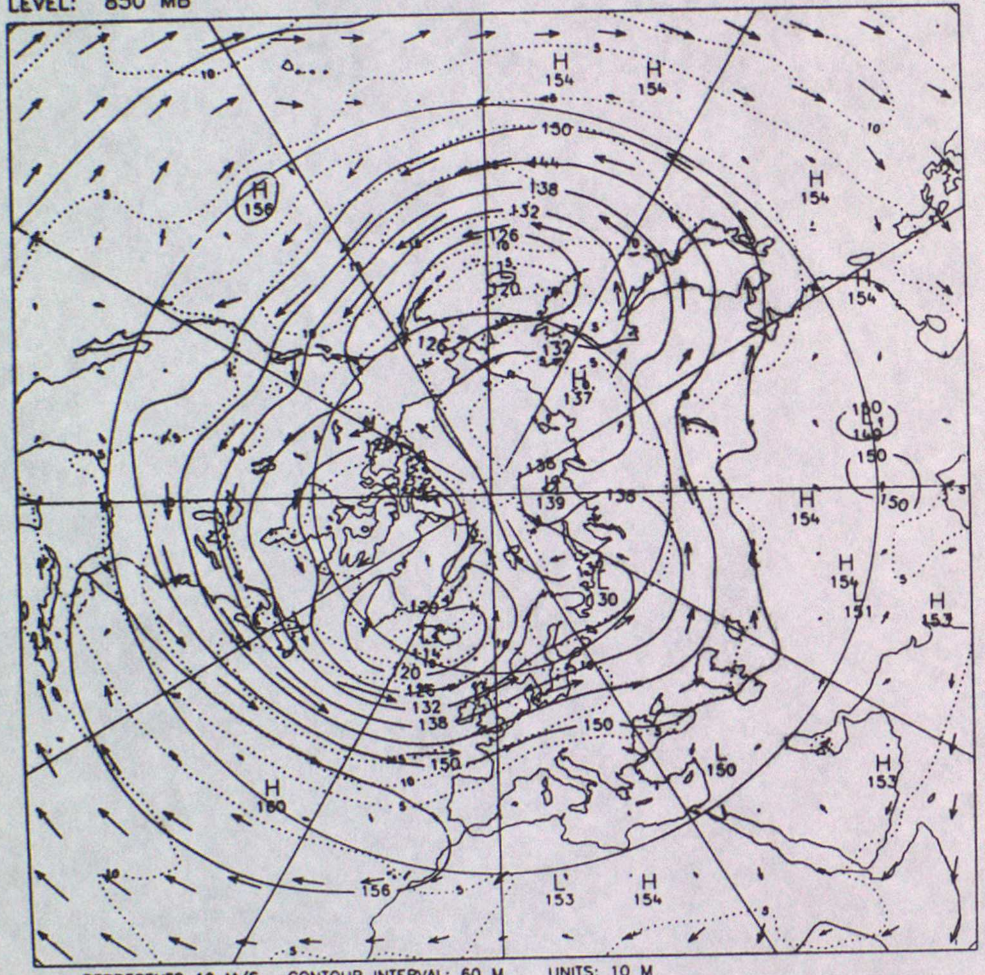
CONTOUR INTERVAL: 4 MB   UNITS: MB

OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 850 MB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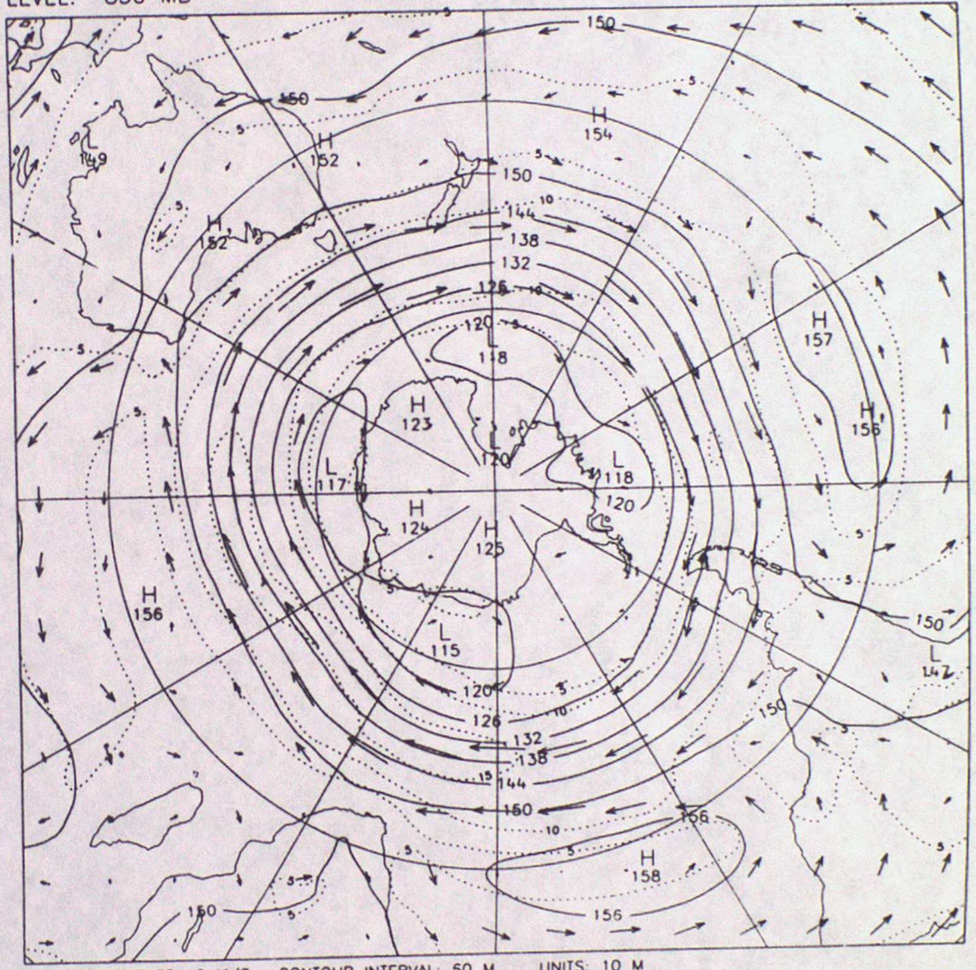
H 153
H 160
156
L 153
H 154

→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 60 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 850 MB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L 142
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144
150
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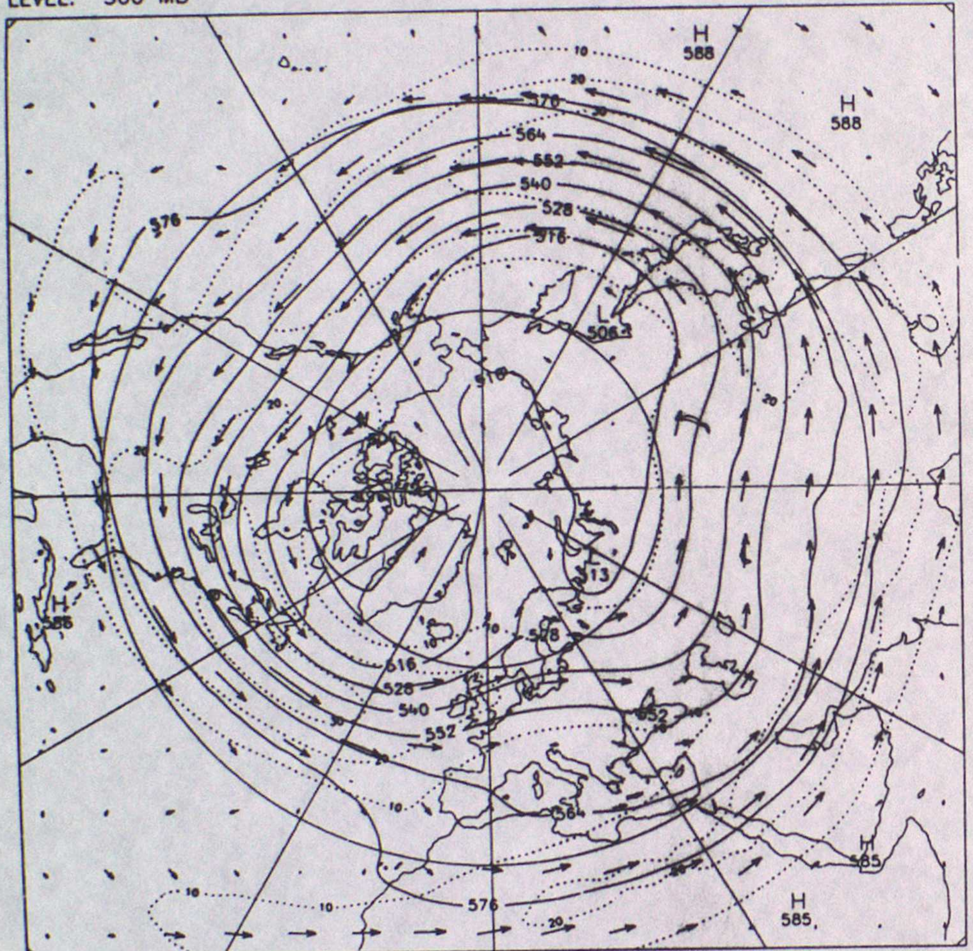
156
150

→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 50 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 500 MB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H
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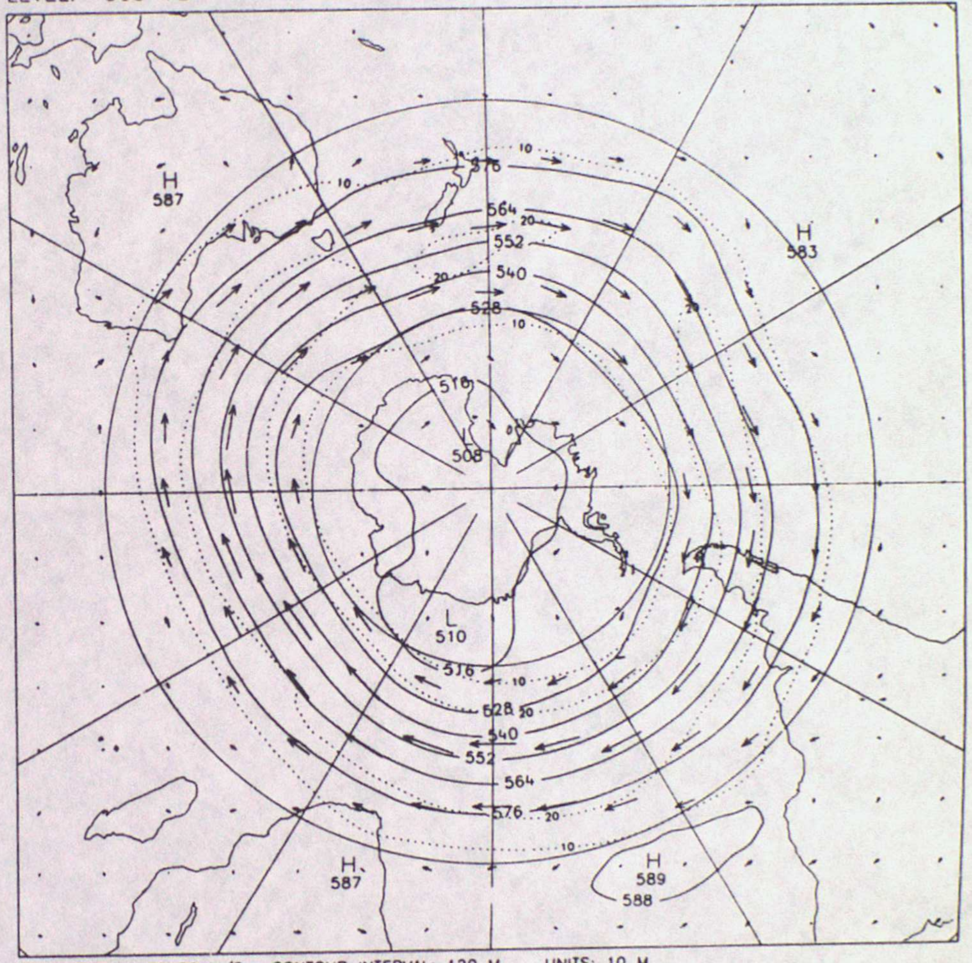
H
585

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 500 MB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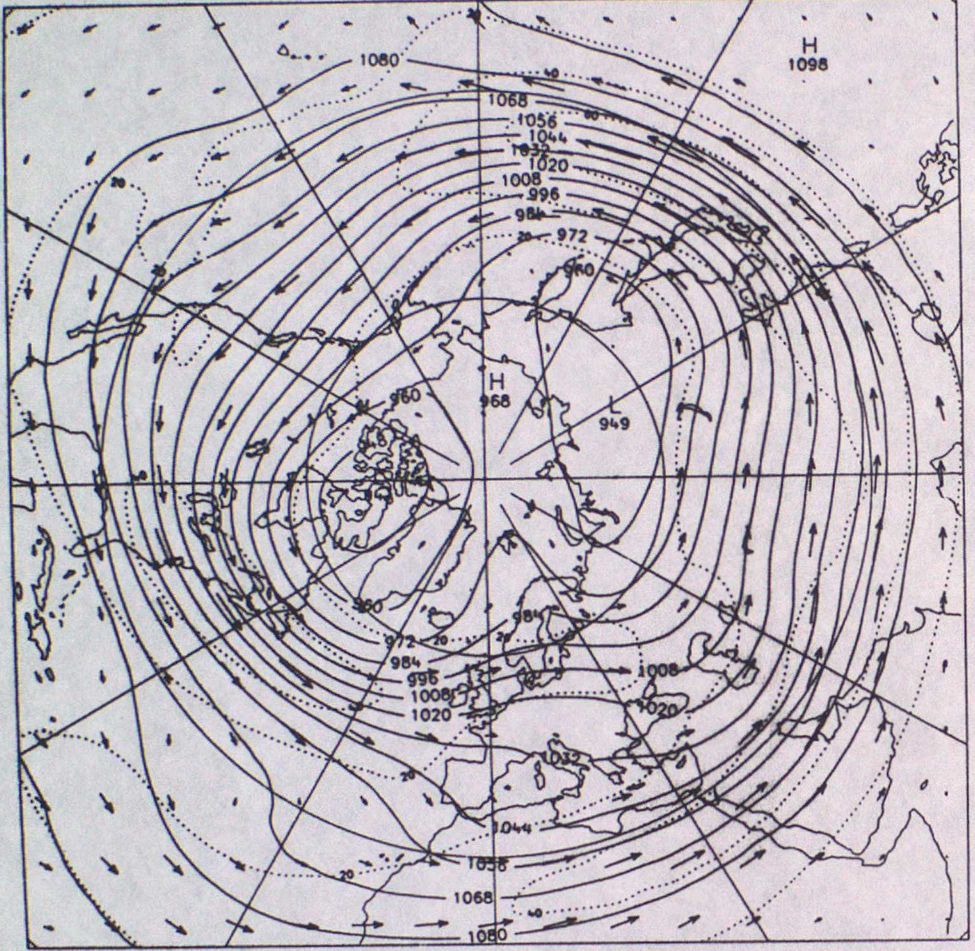
→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 250 MB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L
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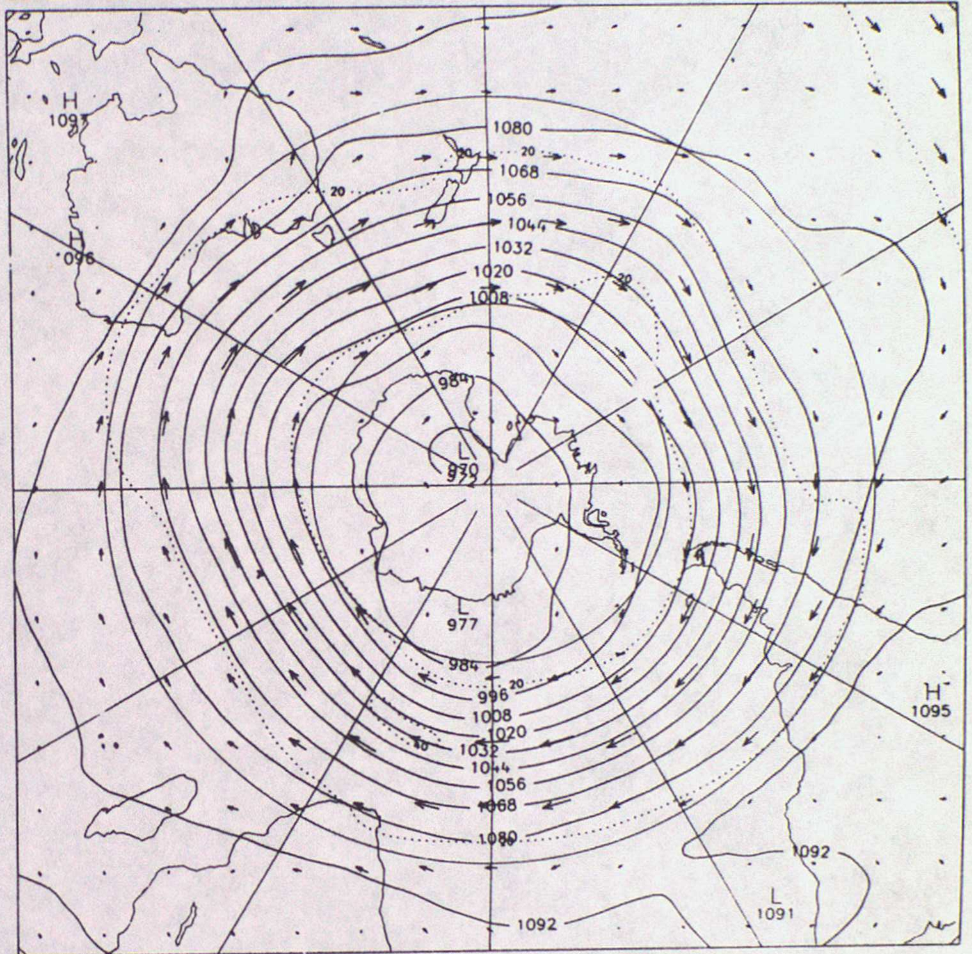
40
60

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 250 MB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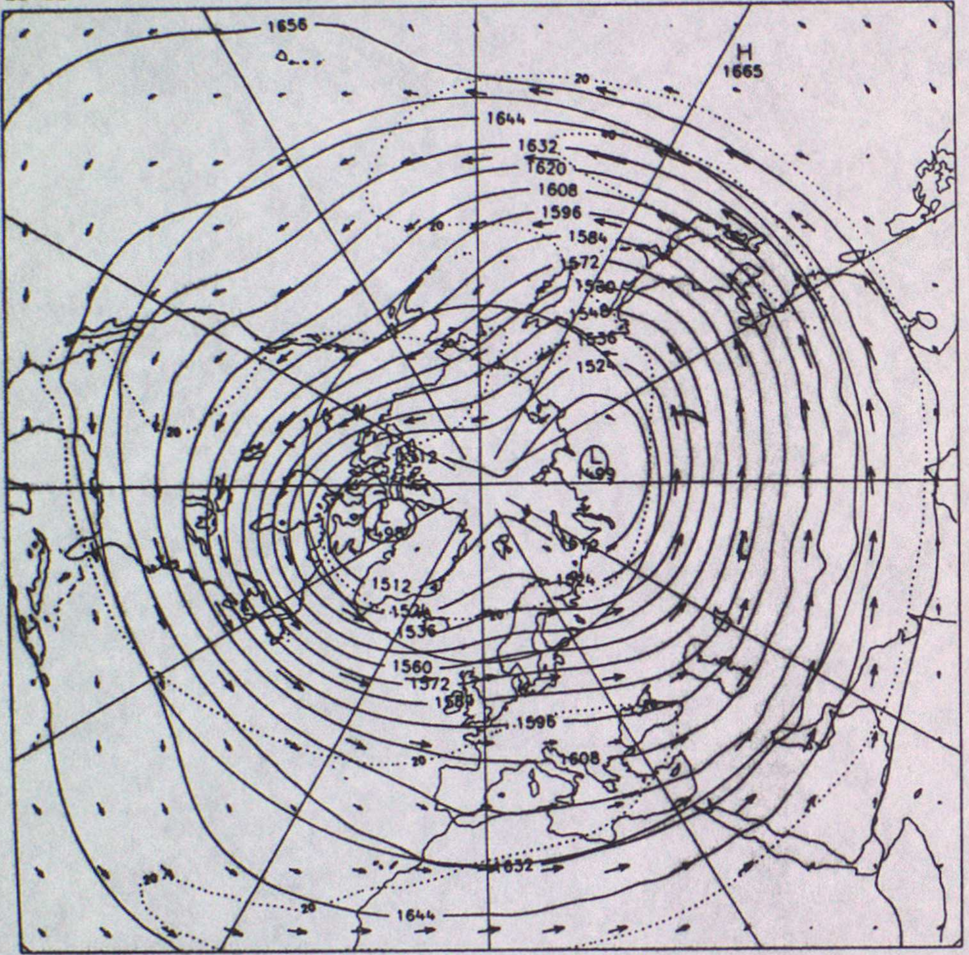
→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 100 MB


1656
H
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1644
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1620
1608
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1584
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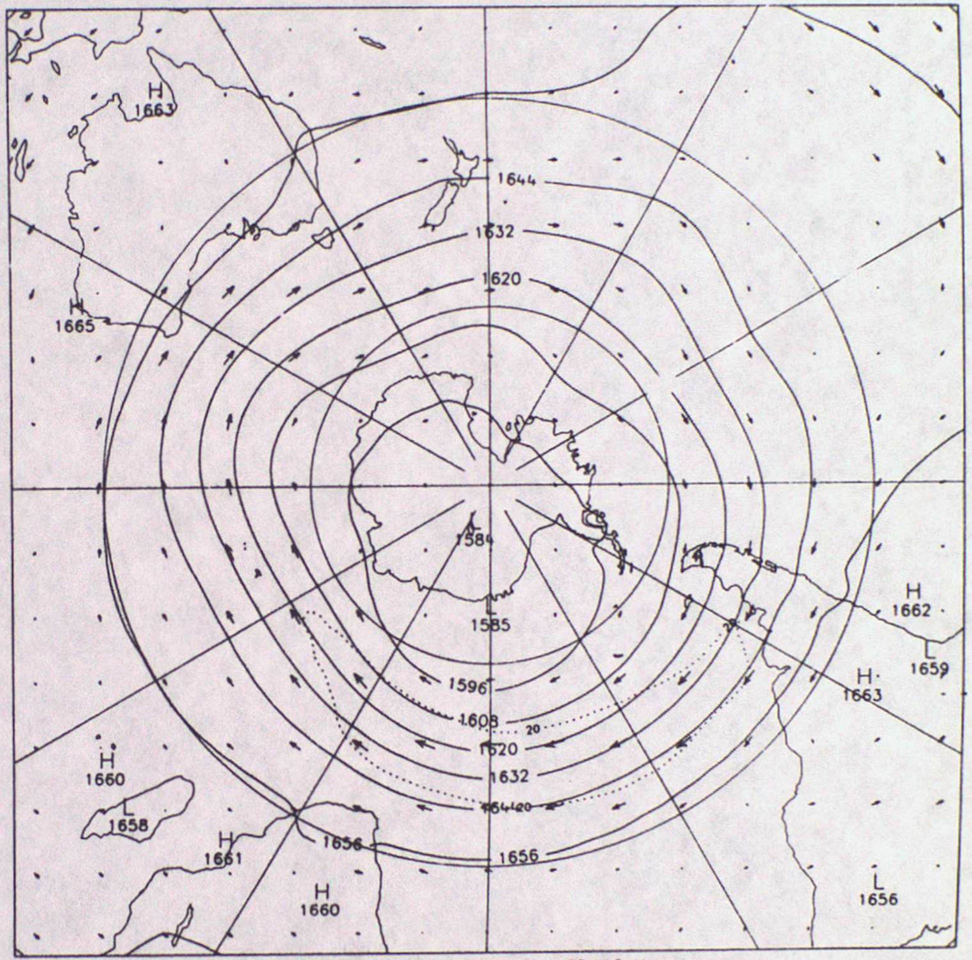
1536
1524
L
1499
1512
1498
1512
1524
1536
1560
1572
1584
1596
1608
1632
1644
20

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
LEVEL: 100 MB


H
1663
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1665
1644
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1620
L
1584
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1596
1608
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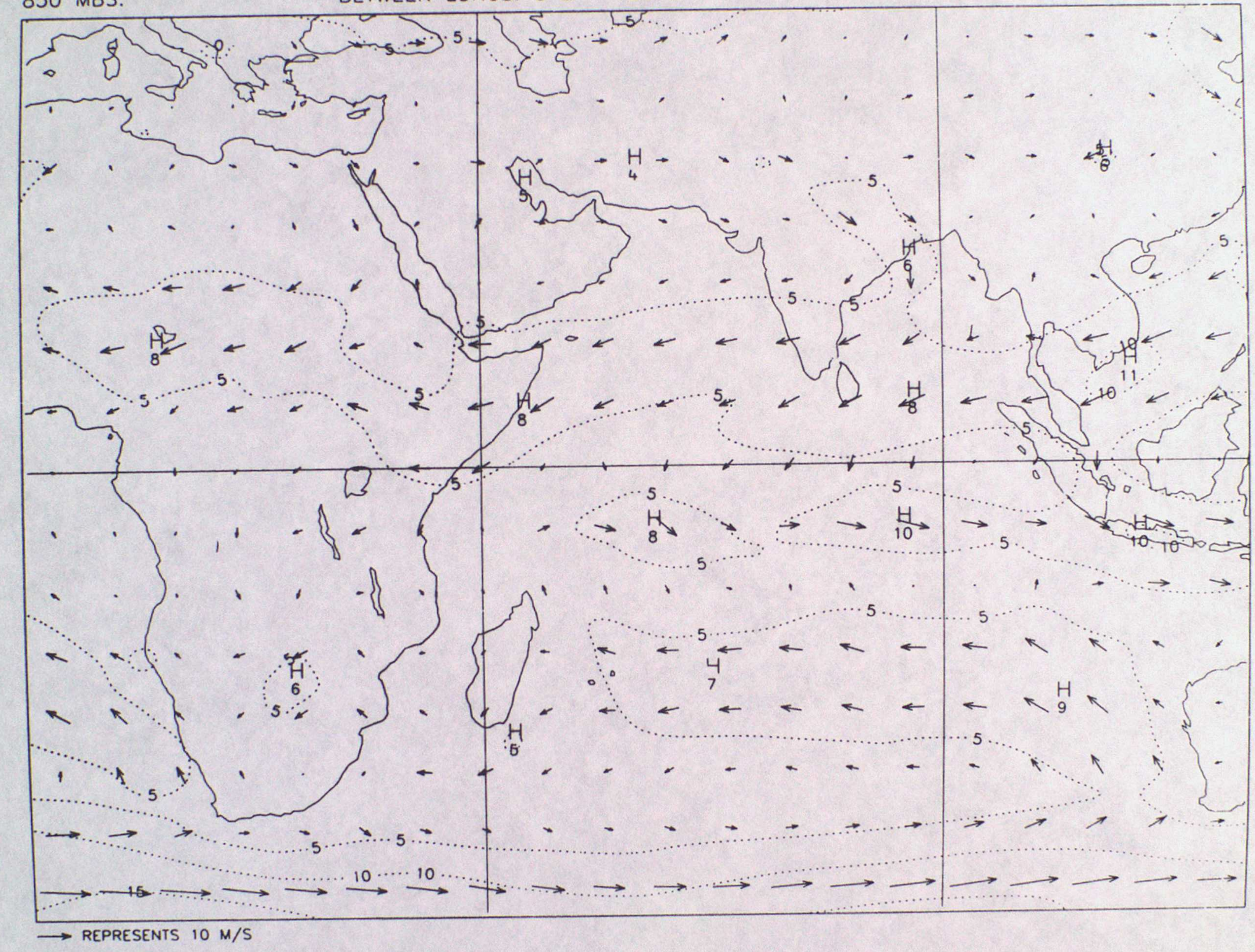
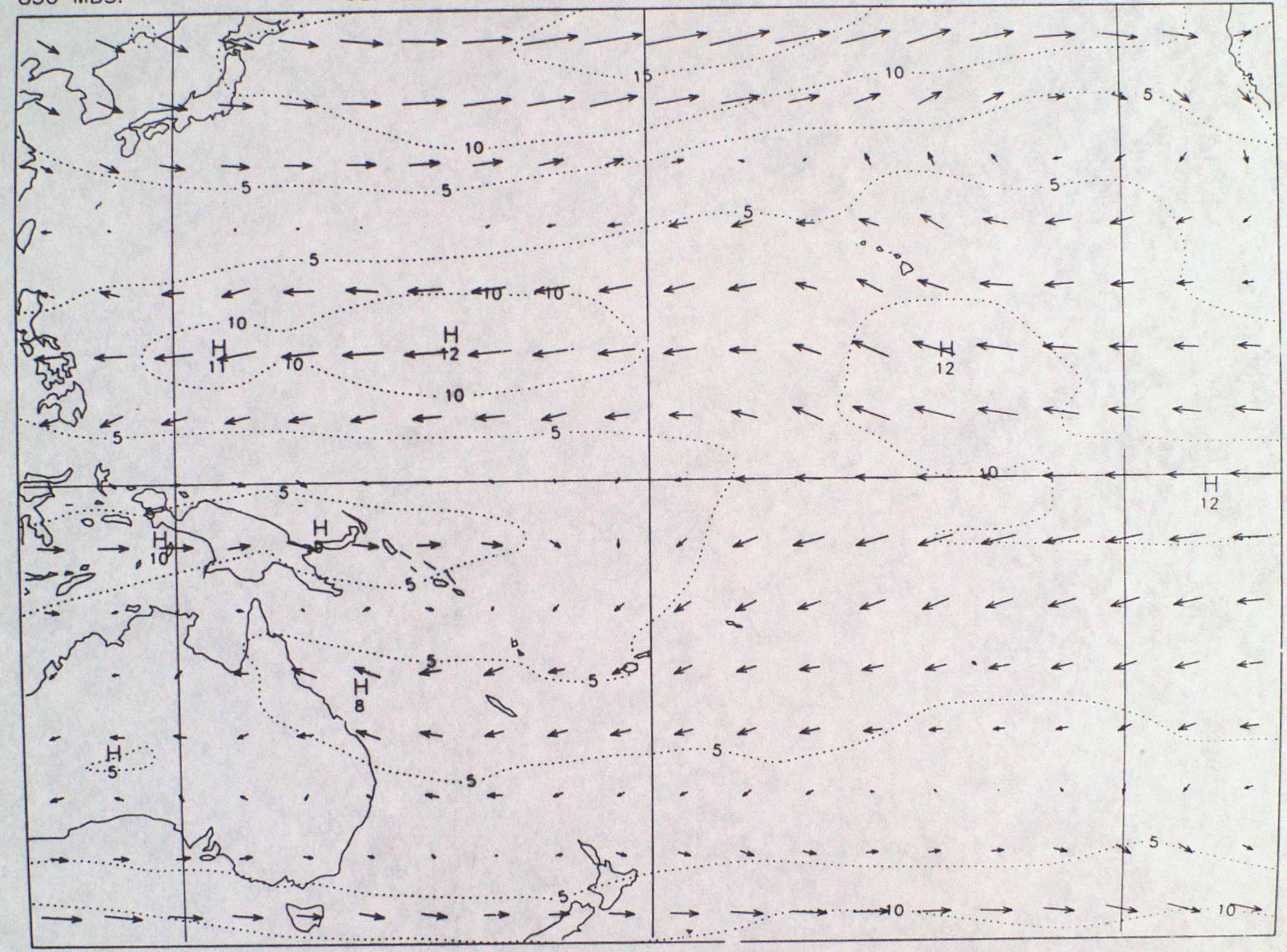
1632
1644 20
1656
1656
H
1662
L
1659
H
1663
H
1660
L
1658
H
1661
H
1660
L
1656

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
850 MBS.   BETWEEN LONGS. 0 E - 120 E



OPERATIONAL ARCHIVE MEANS.   JANUARY   1990
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
850 MBS.   BETWEEN LONGS. 120 E - 120 W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5
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10
10
H
11
10
H
12
10
H
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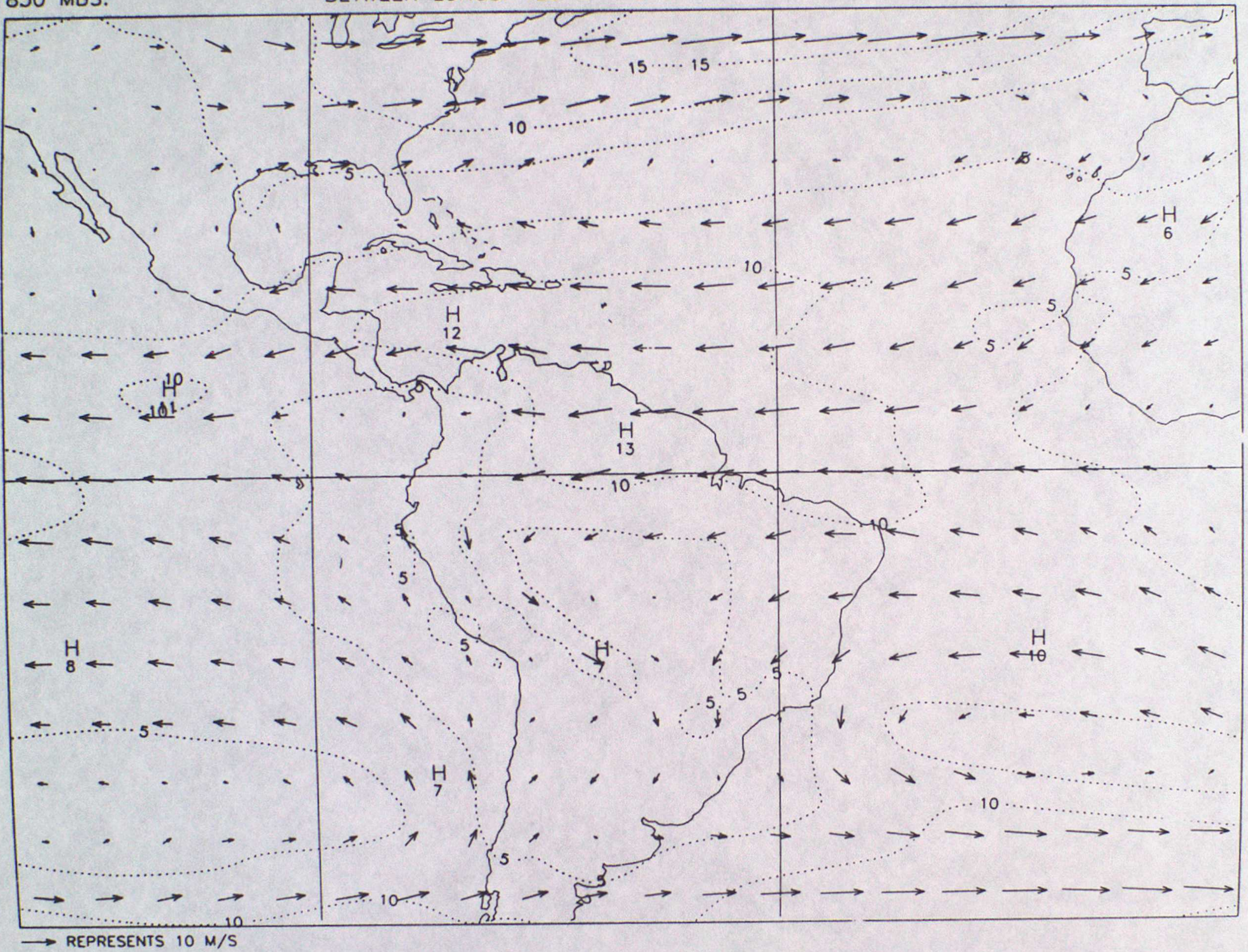
5
10
H
12
5
H
10
H
8
5
5
5
H
8
H
5
5
5
5
5
10
10

→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
850 MBS. BETWEEN LONGS. 120 W - 0 W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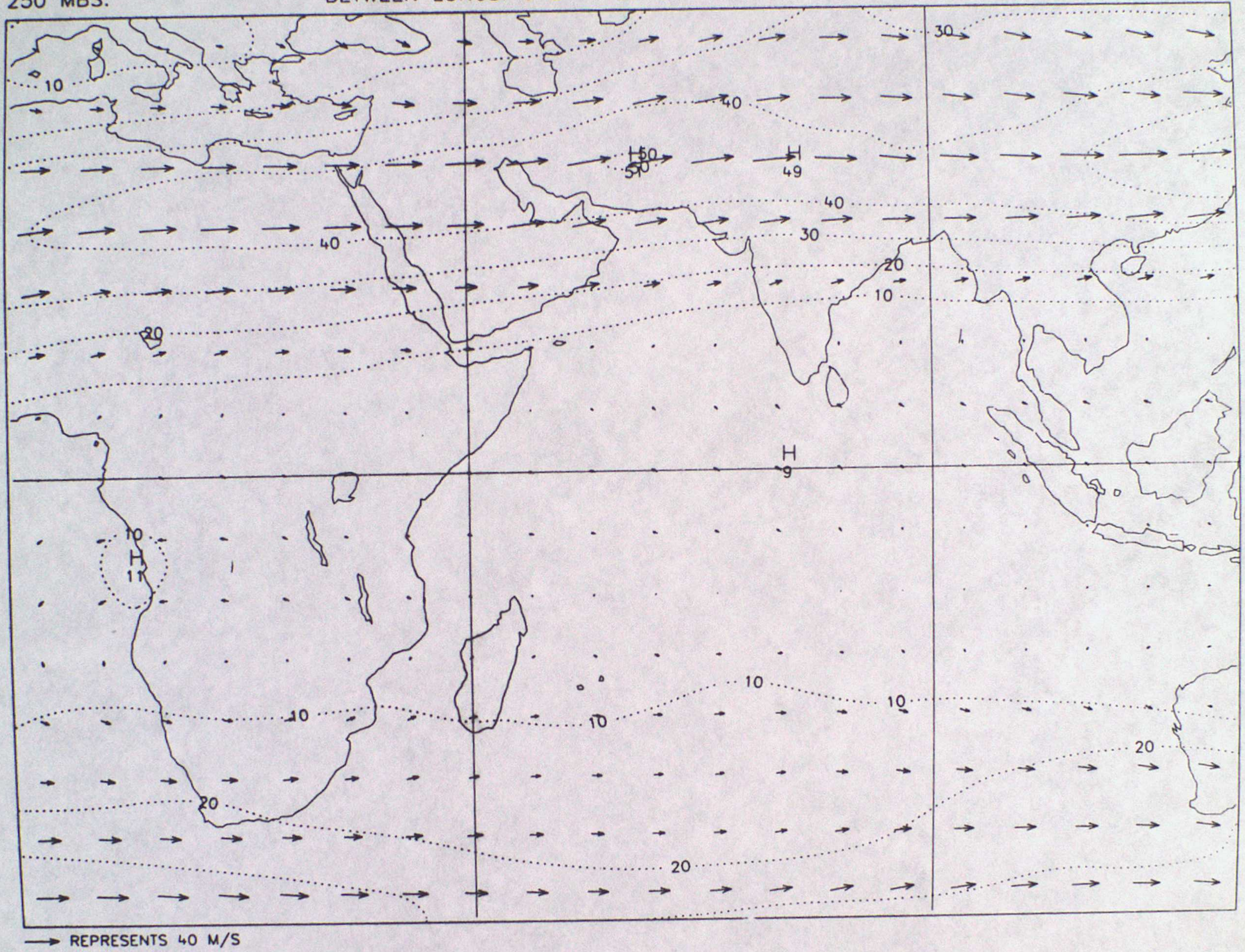
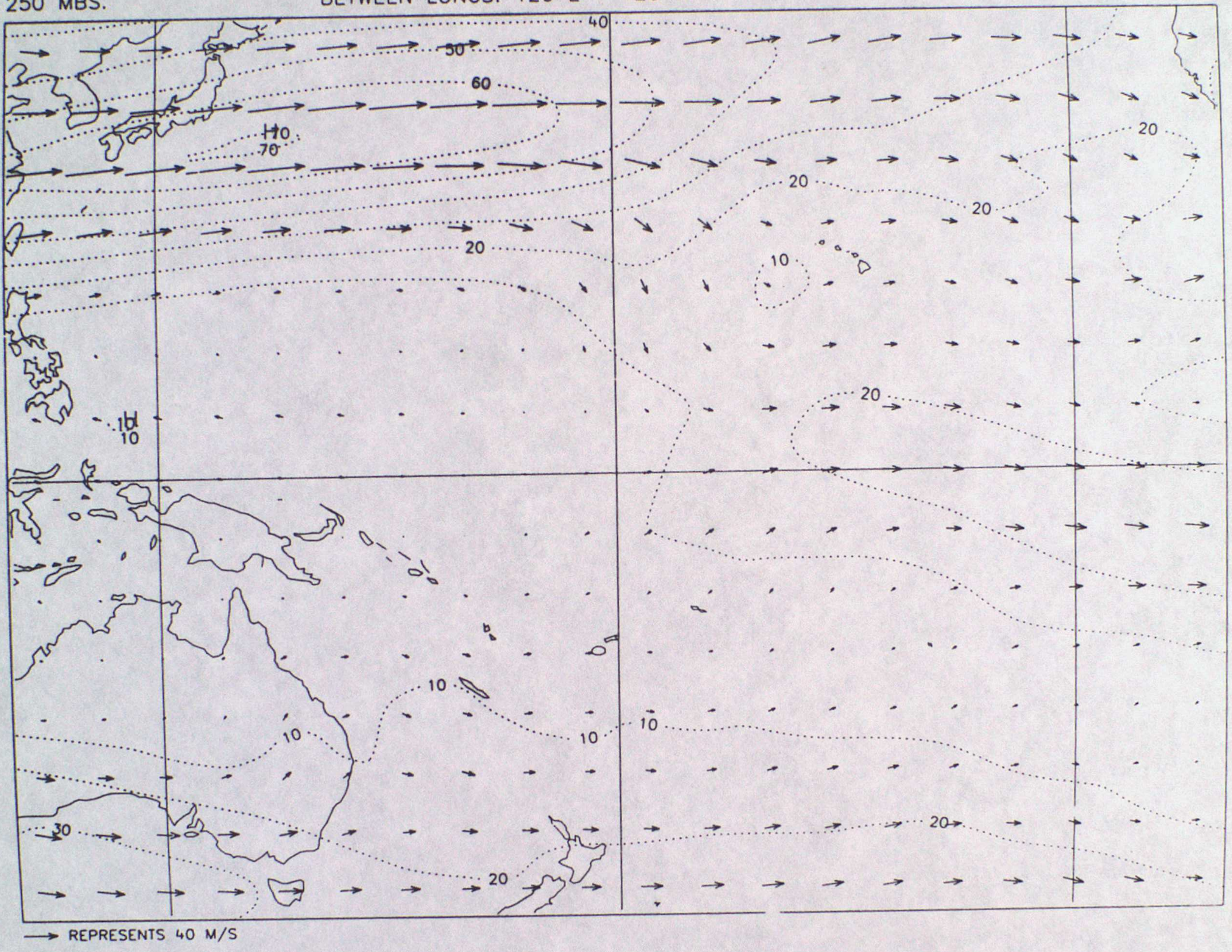
10
5
H
12
H
10
101
H
13
10
H
6
5
5
10
H
8
H
10
5
H
7
10
→ REPRESENTS 10 M/S

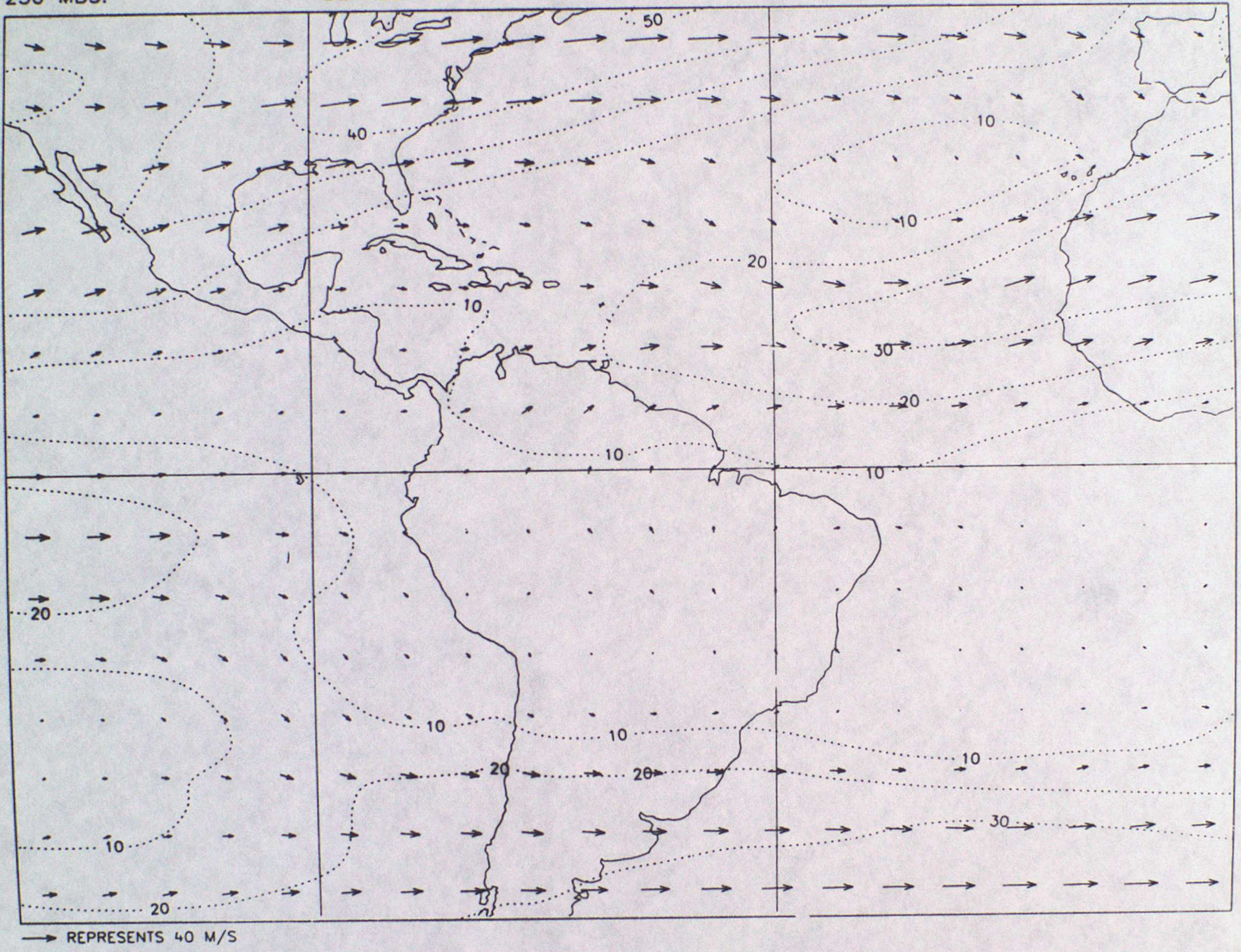
OPERATIONAL ARCHIVE MEANS. JANUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
250 MBS. BETWEEN LONGS. 0 E - 120 E


10
40
H 50
51
H
49
40
30
40
20
10
20
H
9
10
H
11
10
10
10
10
20
20
20
30
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. JANUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
250 MBS. BETWEEN LONGS. 120 E - 120 W

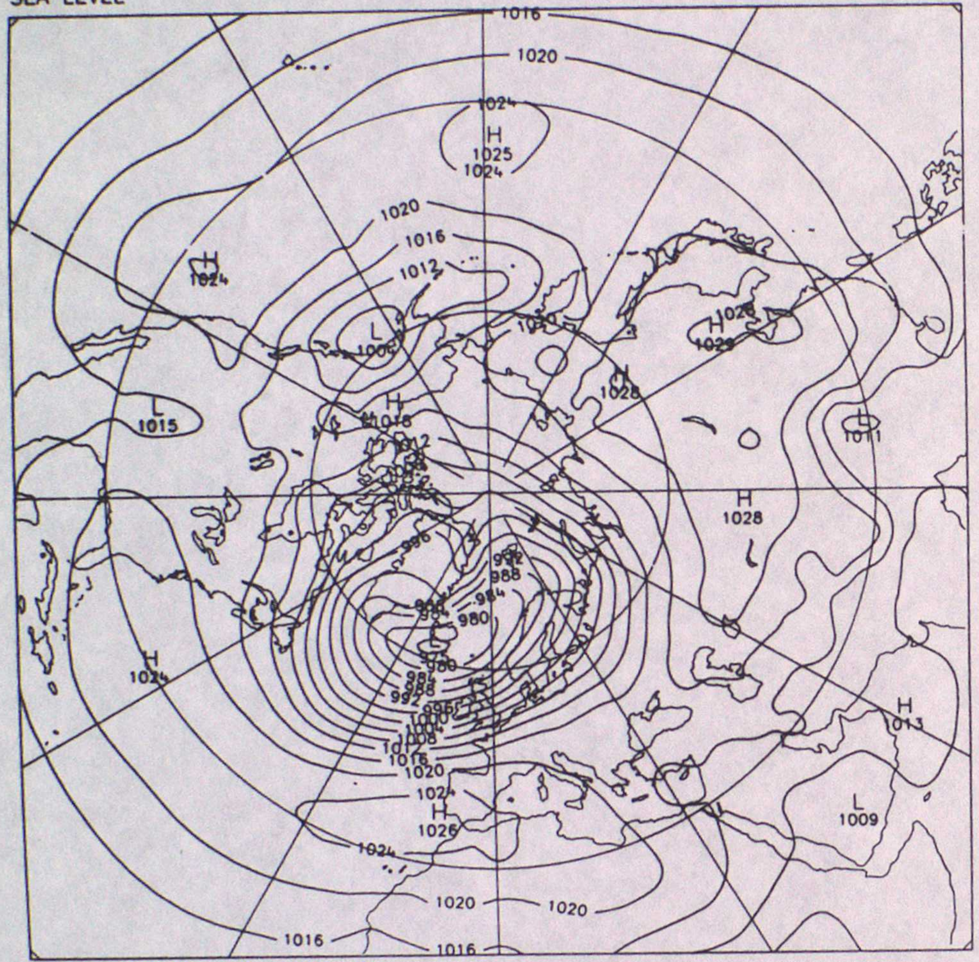

40
50
60
110
70
20
10
30
→ REPRESENTS 40 M/S

OPB90 [illegible] JANUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/1/1990 DAY 1 TO 12Z ON 31/1/1990 DAY 31
250 MBS. BETWEEN LONGS. 120 W - 0 W


50
40
10
10
20
10
30
20
10
10
20
20
10
10
10
20
20
10
30
20
→ REPRESENTS 40 M/S

FEBRUARY
1990

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
PMSL
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
SEA LEVEL


1016
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H
1025
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1020
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1012
H
1024
L
1006
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1015
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1018
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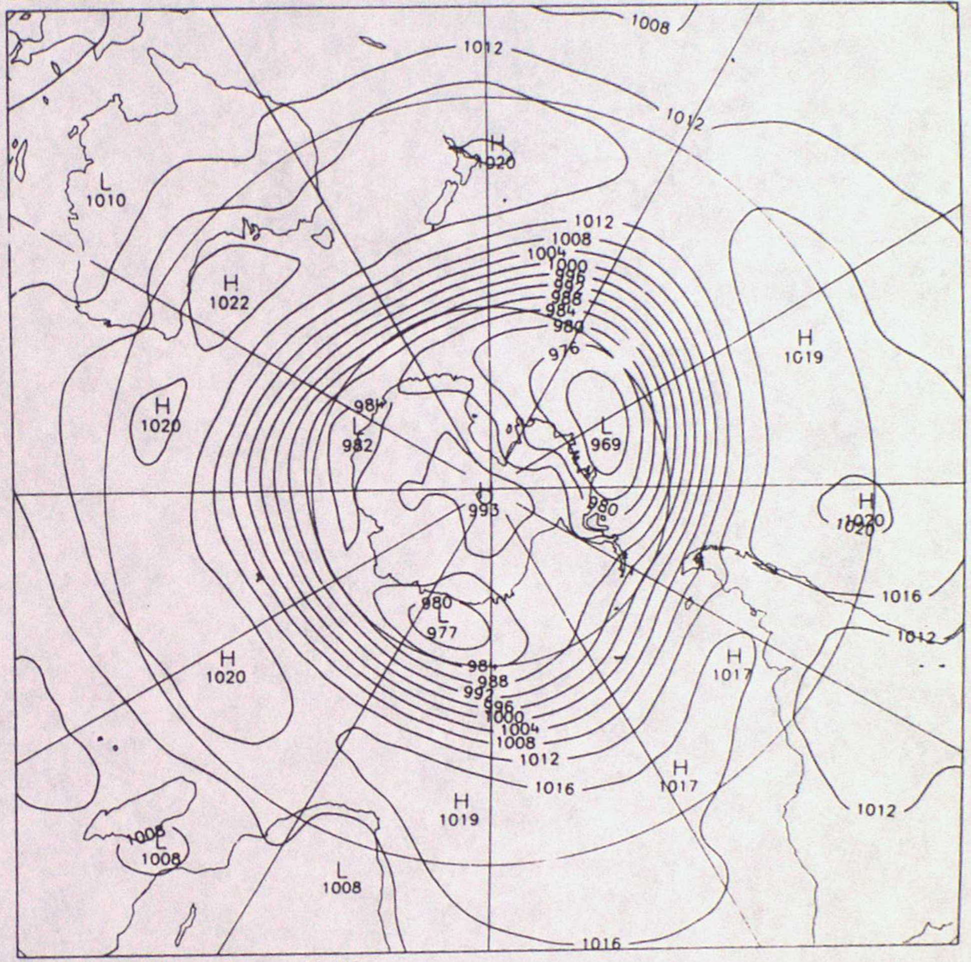
H
1028
H
1028
1029
L
1011
H
1028
992
988
984
980
H
1024
H
1013
L
1009
1024
H
1026
1020
1020
1016
1016

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
PMSL
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
SEA LEVEL


1008
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1020
L
1010
H
1022
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1008
1004
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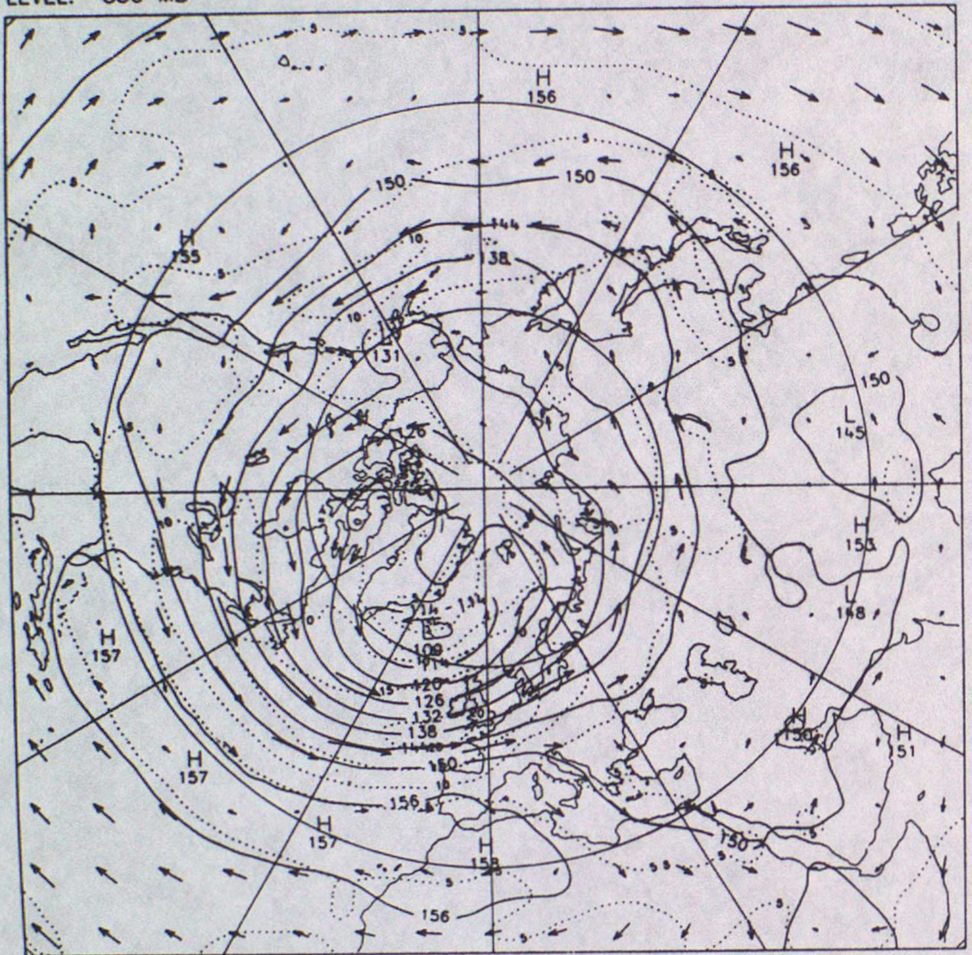
996
992
988
984
980
976
H
1019
H
1020
984
L
982
L
969
L
993
980
H
1020
1020
1016
1012
980
L
977
H
1020
H
1017
984
988
992
996
1000
1004
1008
1012
1016
H
1017
H
1019
1012
L
1008
1008
L
1008
1016

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 850 MB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H 155
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144
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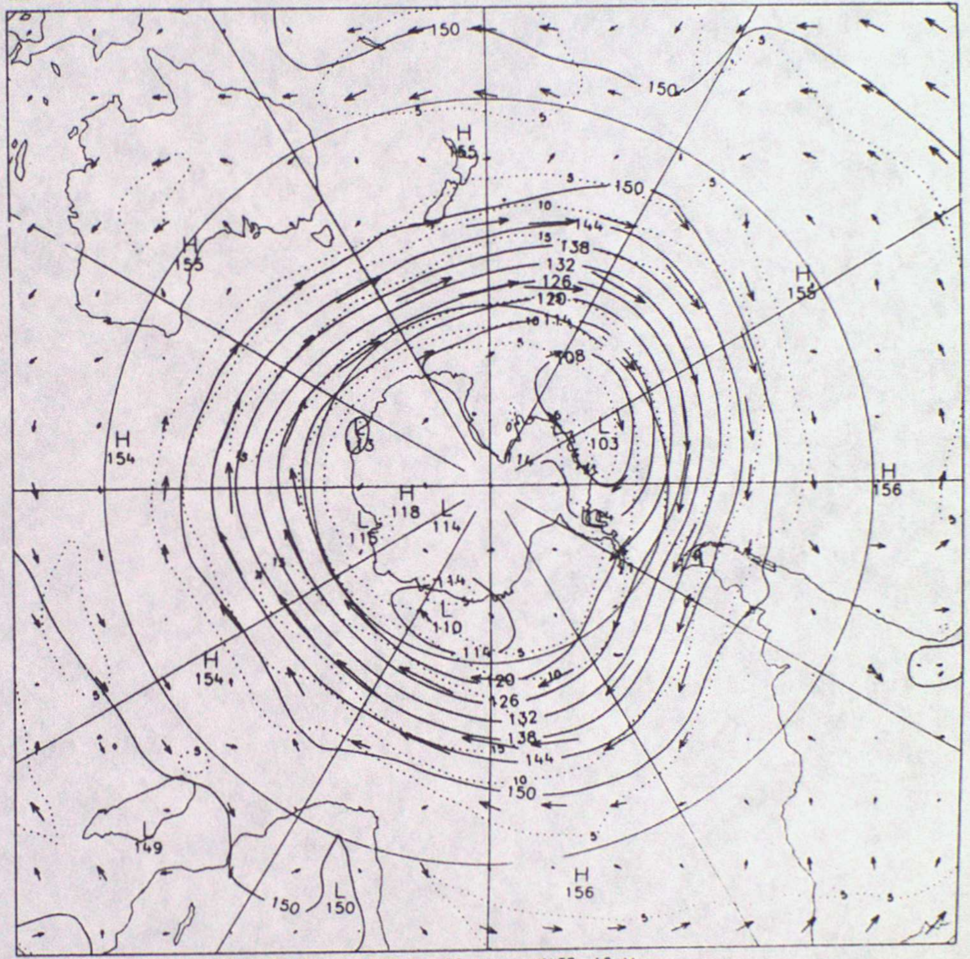
L 145
150
H 153
L 148
H 157
H 157
H 157
L 108
120
126
132
138
144
150
156
H 150
H 51
150
H 158
156

→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY . 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 850 MB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H 154
H 118
L 114
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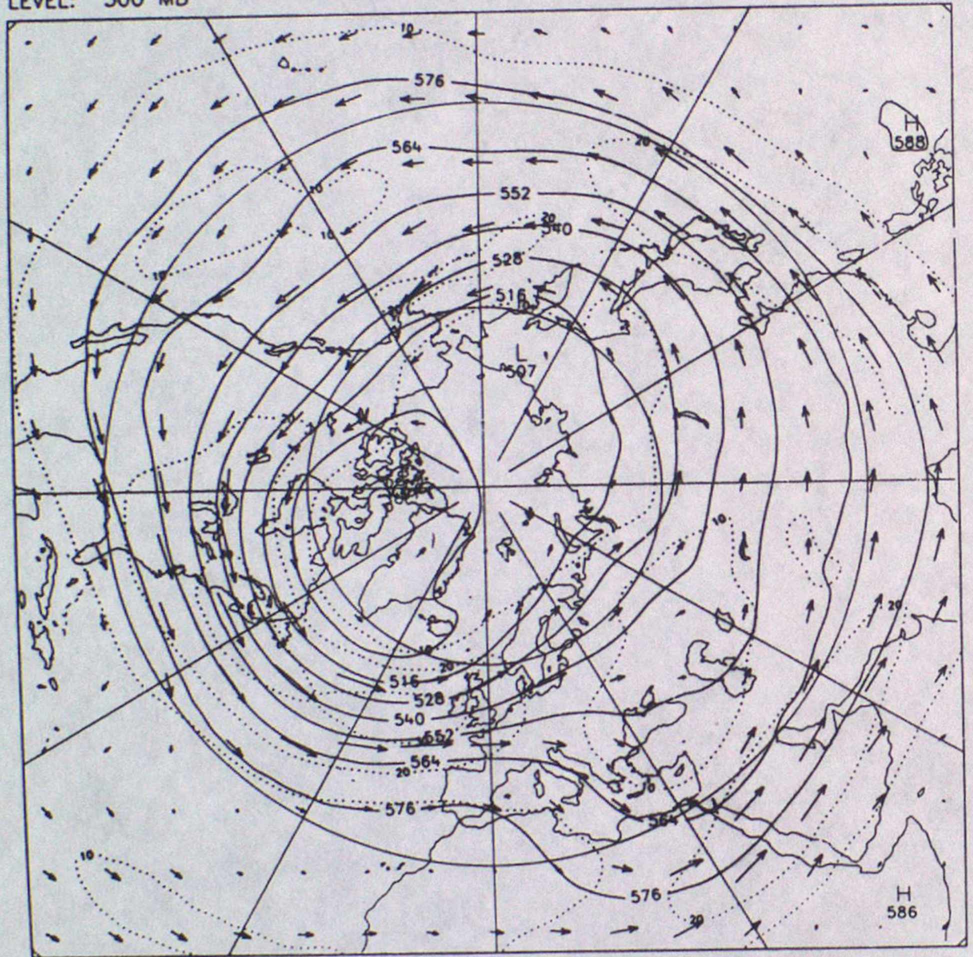
H 156
L 110
114
120
126
132
138
144
150
H 154
L 149
L 150
150
H 156

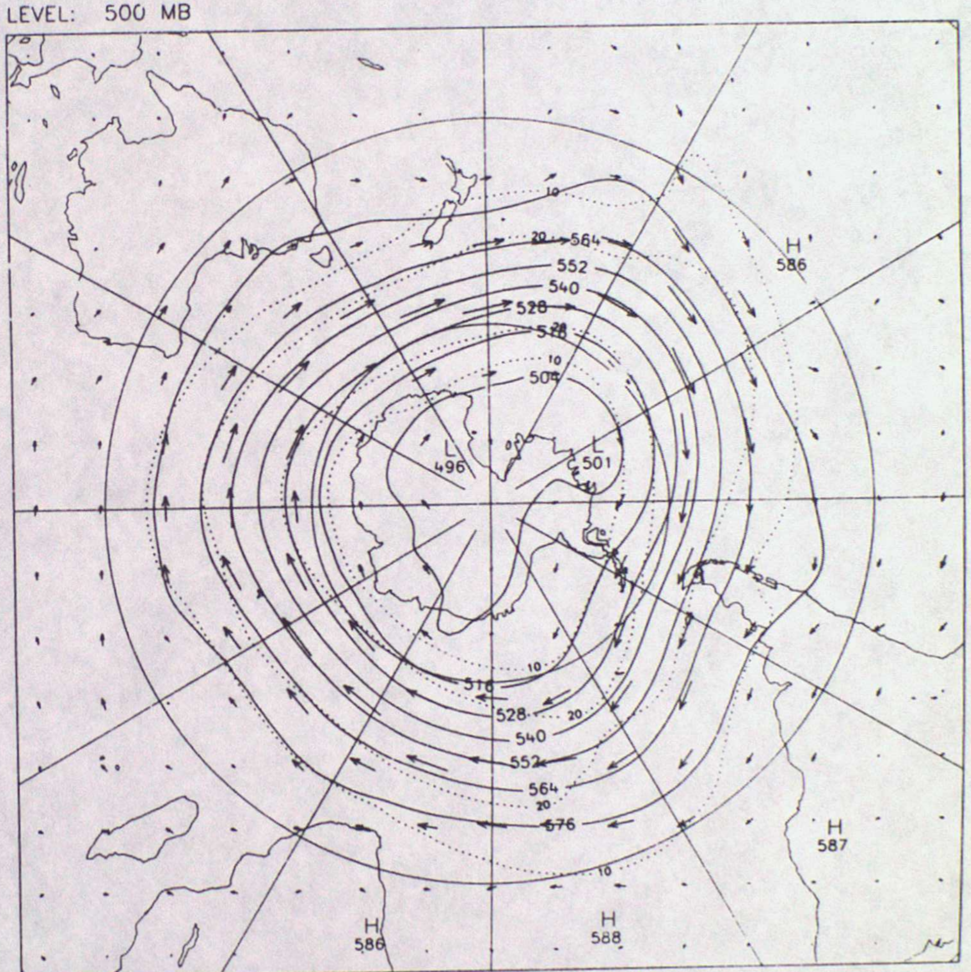
→ REPRESENTS 10 M/S CONTOUR INTERVAL: 60 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   FEBRUARY   1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 500 MB


576
564
552
540
528
516
L
507
H
588
H
586
10
20

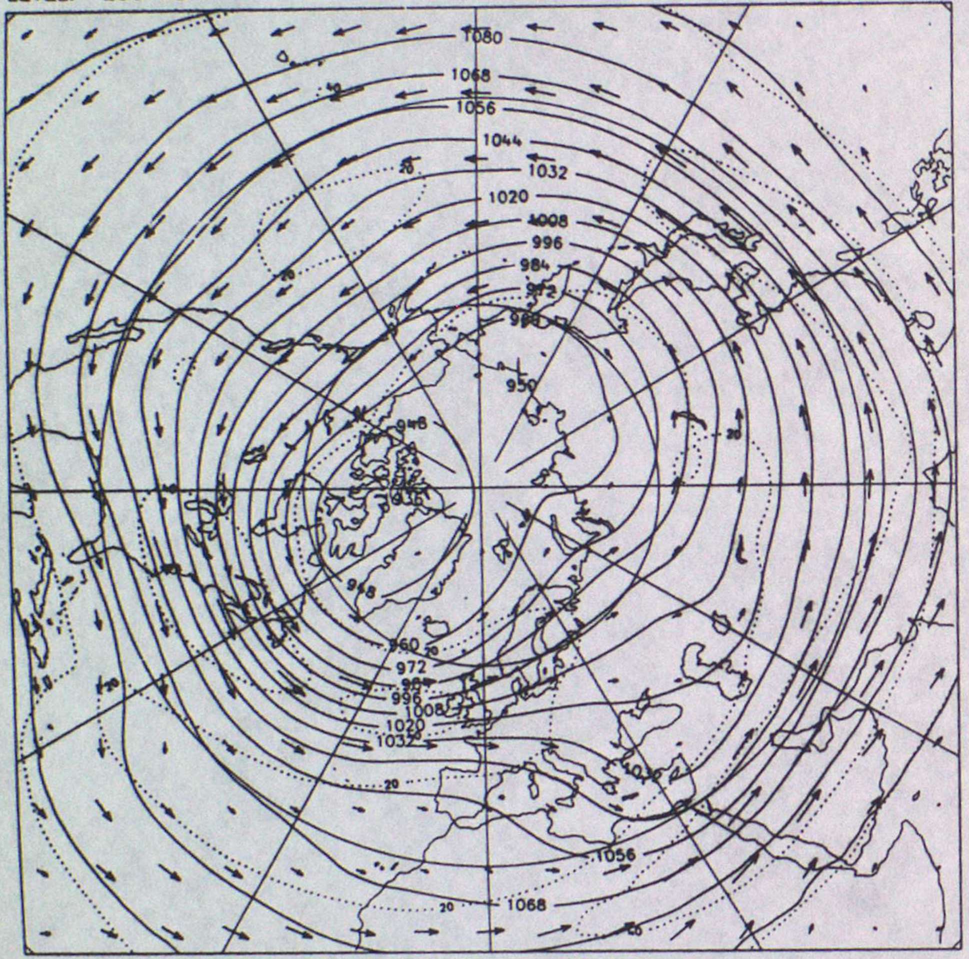
→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   FEBRUARY   1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 500 MB


564
552
540
528
516
504
L
496
L
501
576
H
586
H
587
H
588
10
20

→ REPRESENTS 20 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 250 MB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972
960
950
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936
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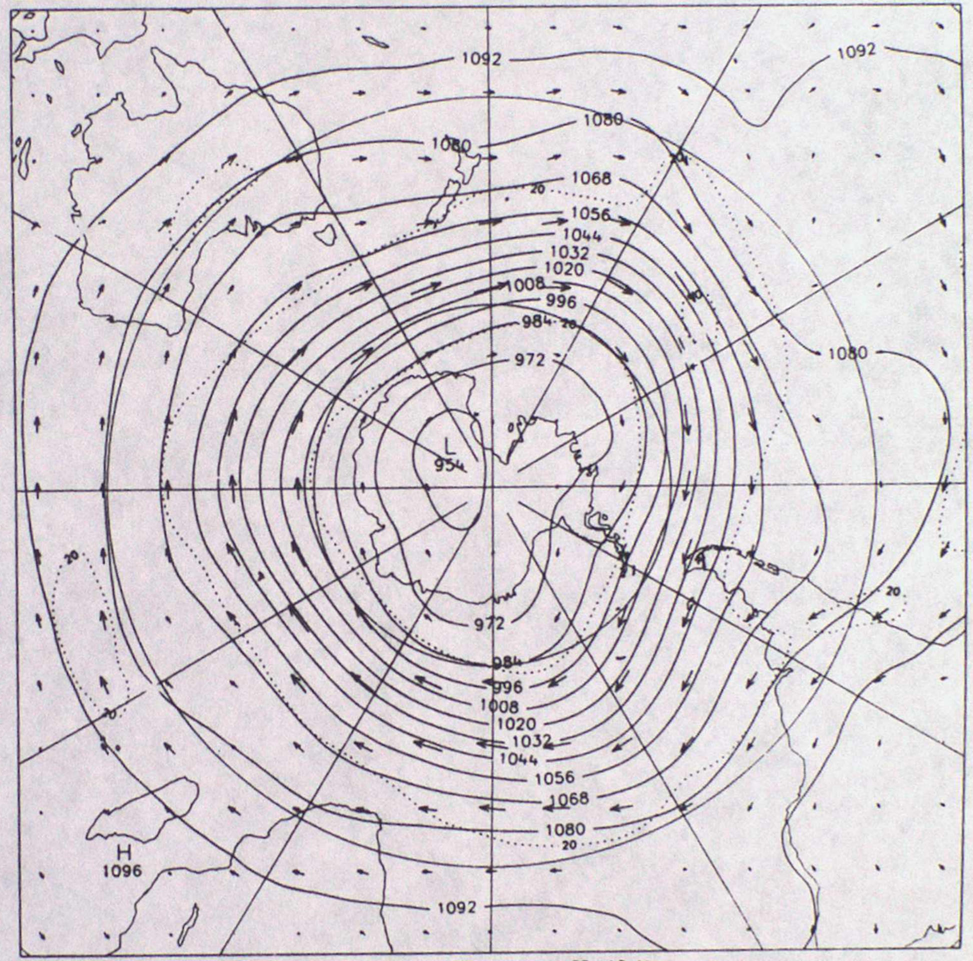
972
984
996
1008
1020
1032
1056
1068
20
40
L

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 250 MB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1080
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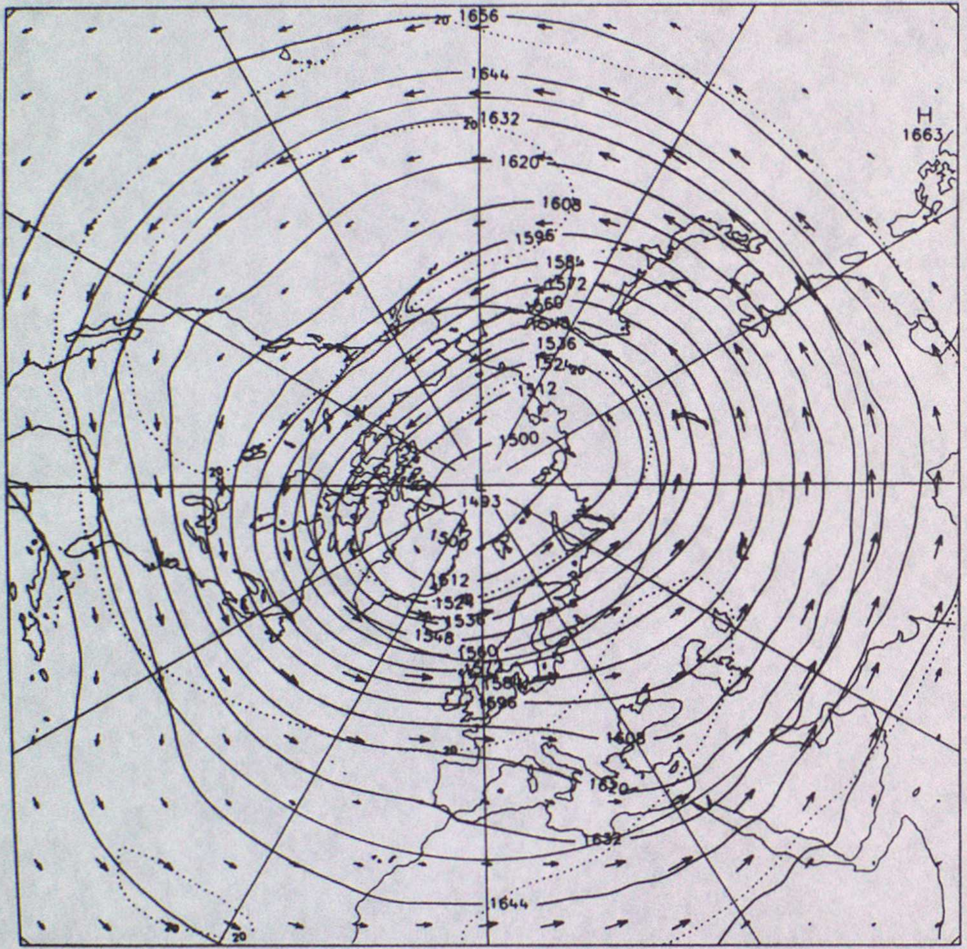
1020
1008
996
984
972
954
L
972
984
996
1008
1020
1032
1044
1056
1068
1080
1080
1092
H
1096
20
40

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 100 MB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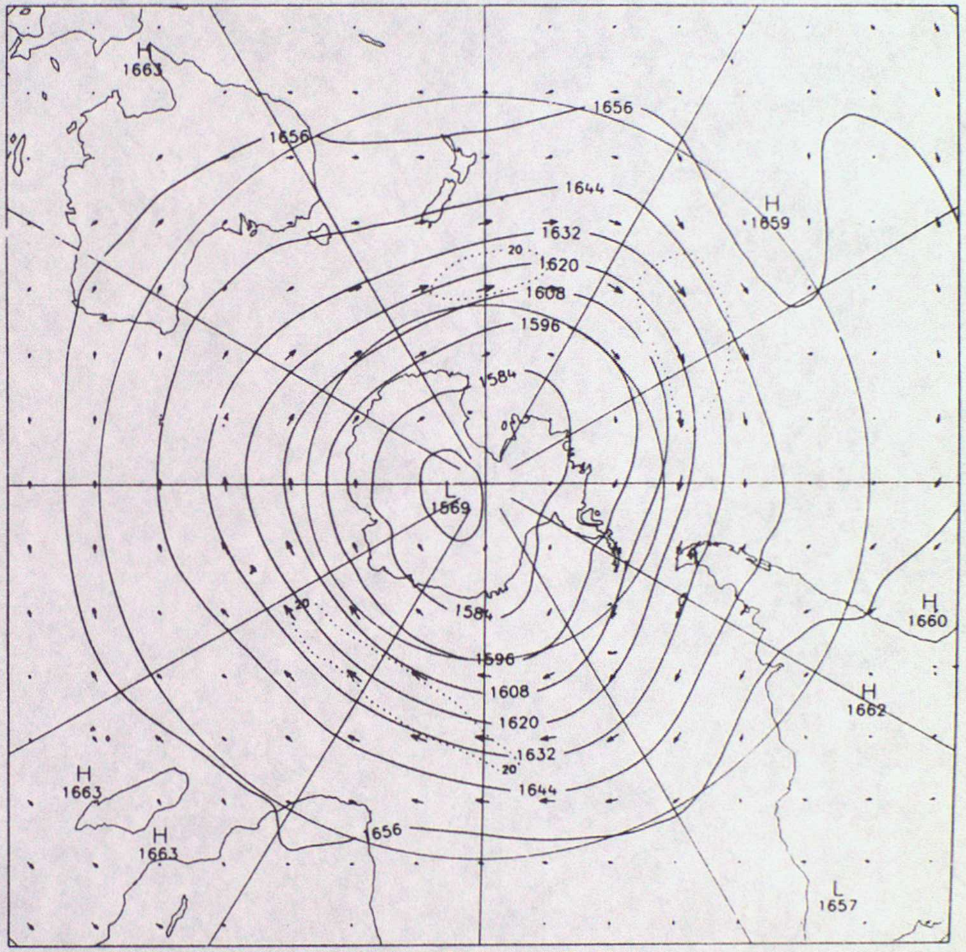
1512
1524
1536
1548
1560
1584
1596
1608
1620
1632
1644
H
1663
20

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 100 MB


H
1663
1656
1656
1644
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1659
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1620
1608
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1584
L
1569
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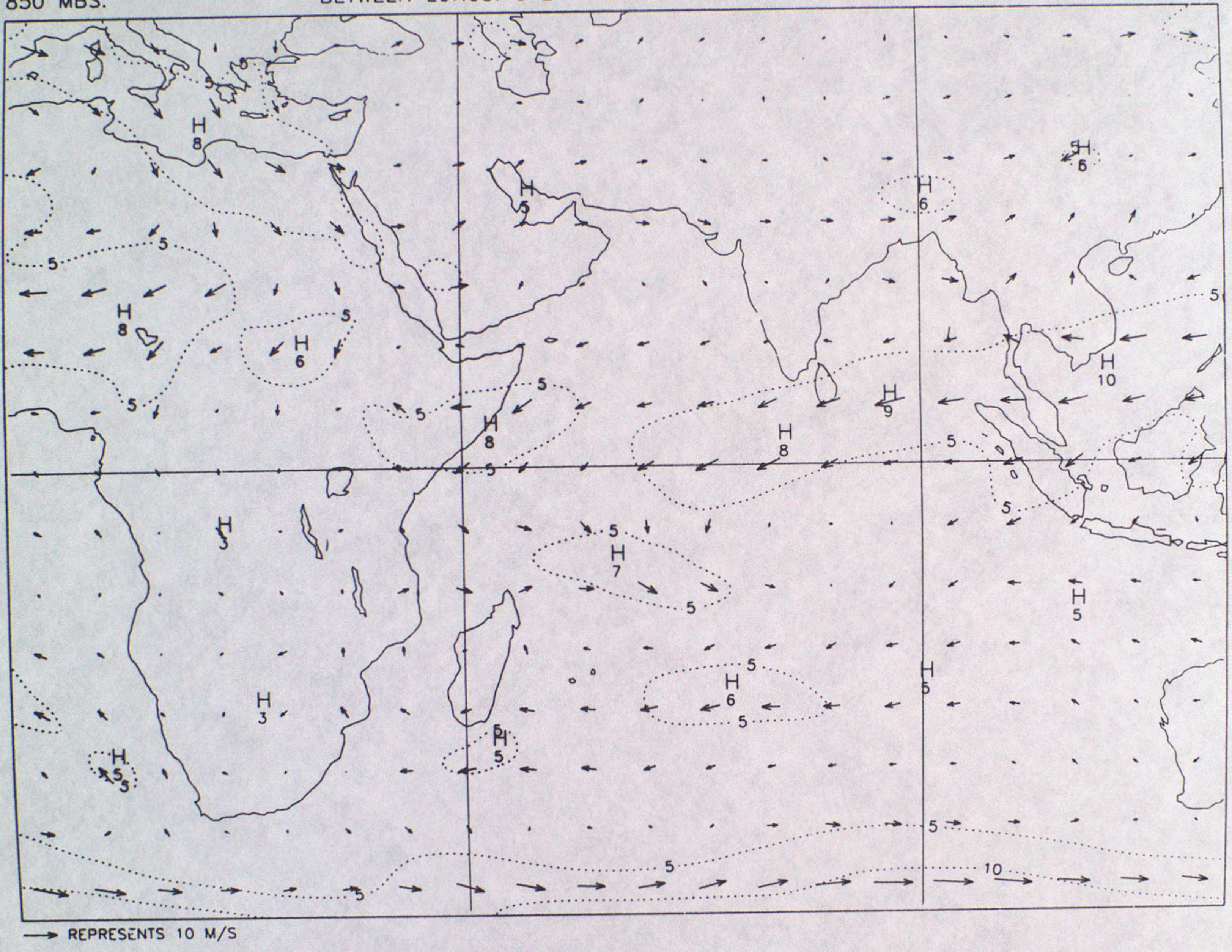
1608
1620
1632
1644
656
20
H
1660
H
1662
H
1663
H
1663
L
1657

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
850 MBS. BETWEEN LONGS. 0 E - 120 E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H 8
H 9
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H 10
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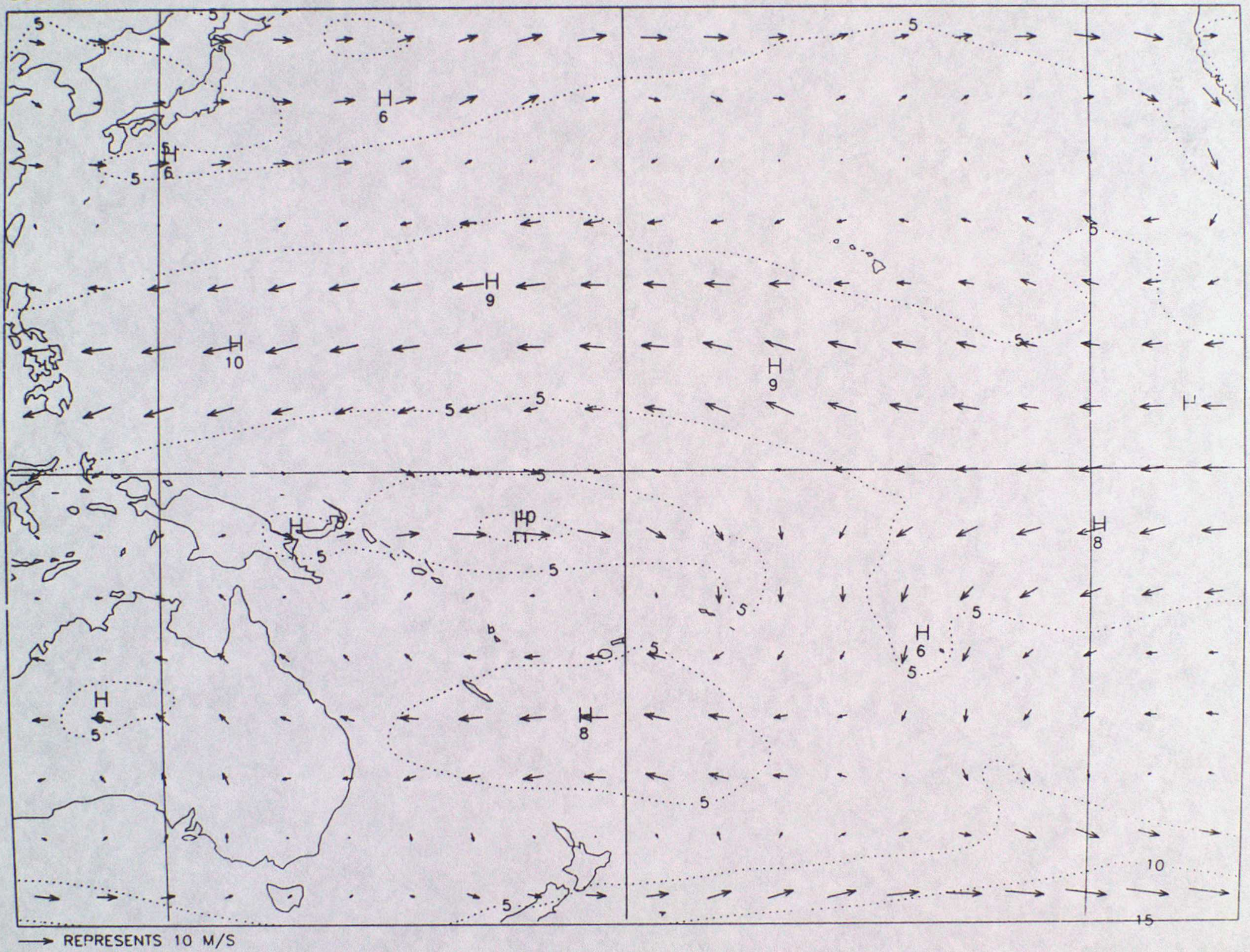
H 7
H 3
H 6
H 5
H 5
H 5
H 5
5
10
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
850 MBS. BETWEEN LONGS. 120 E - 120 W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H
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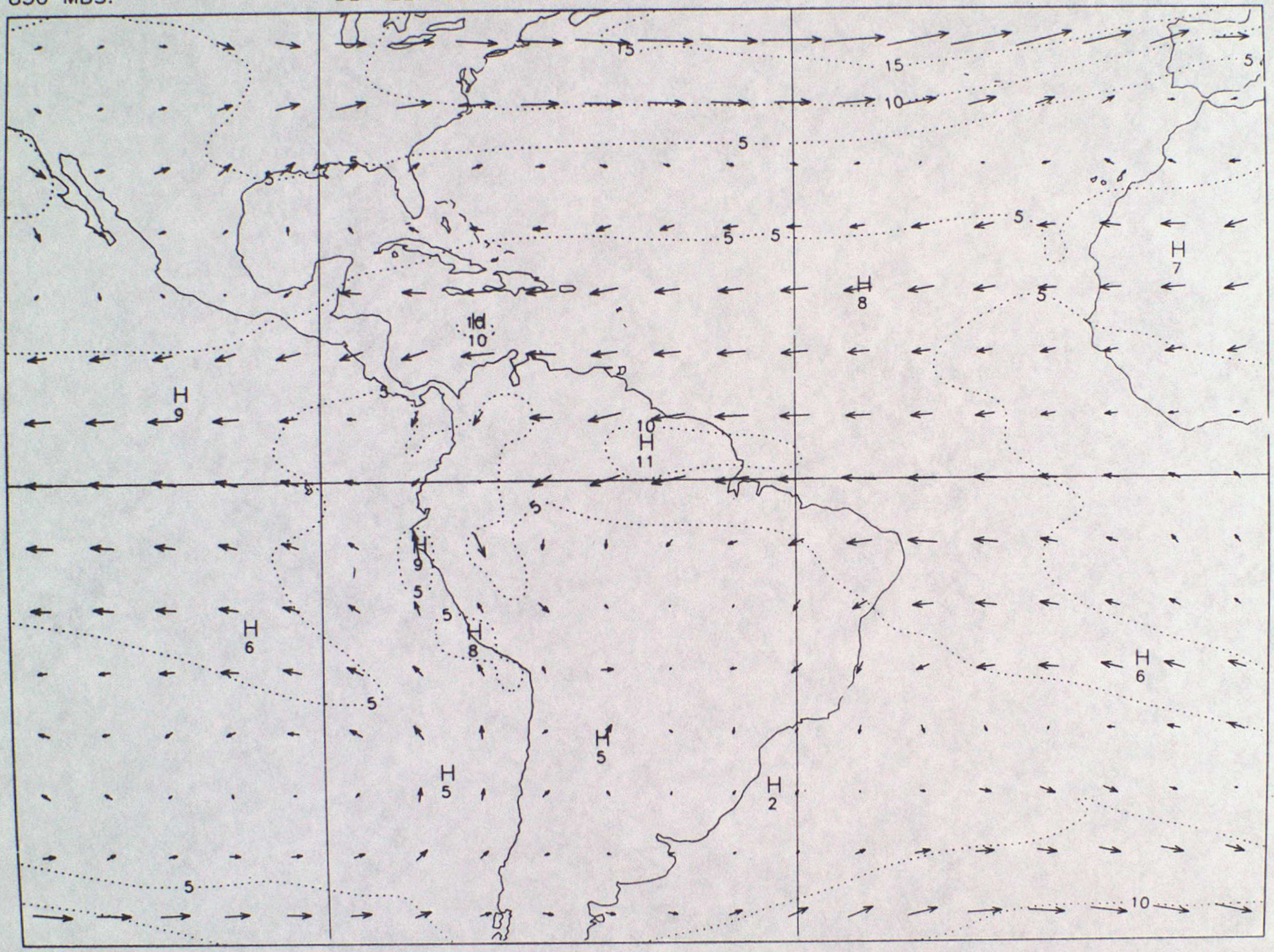
8
15
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
850 MBS. BETWEEN LONGS. 120 W - 0 W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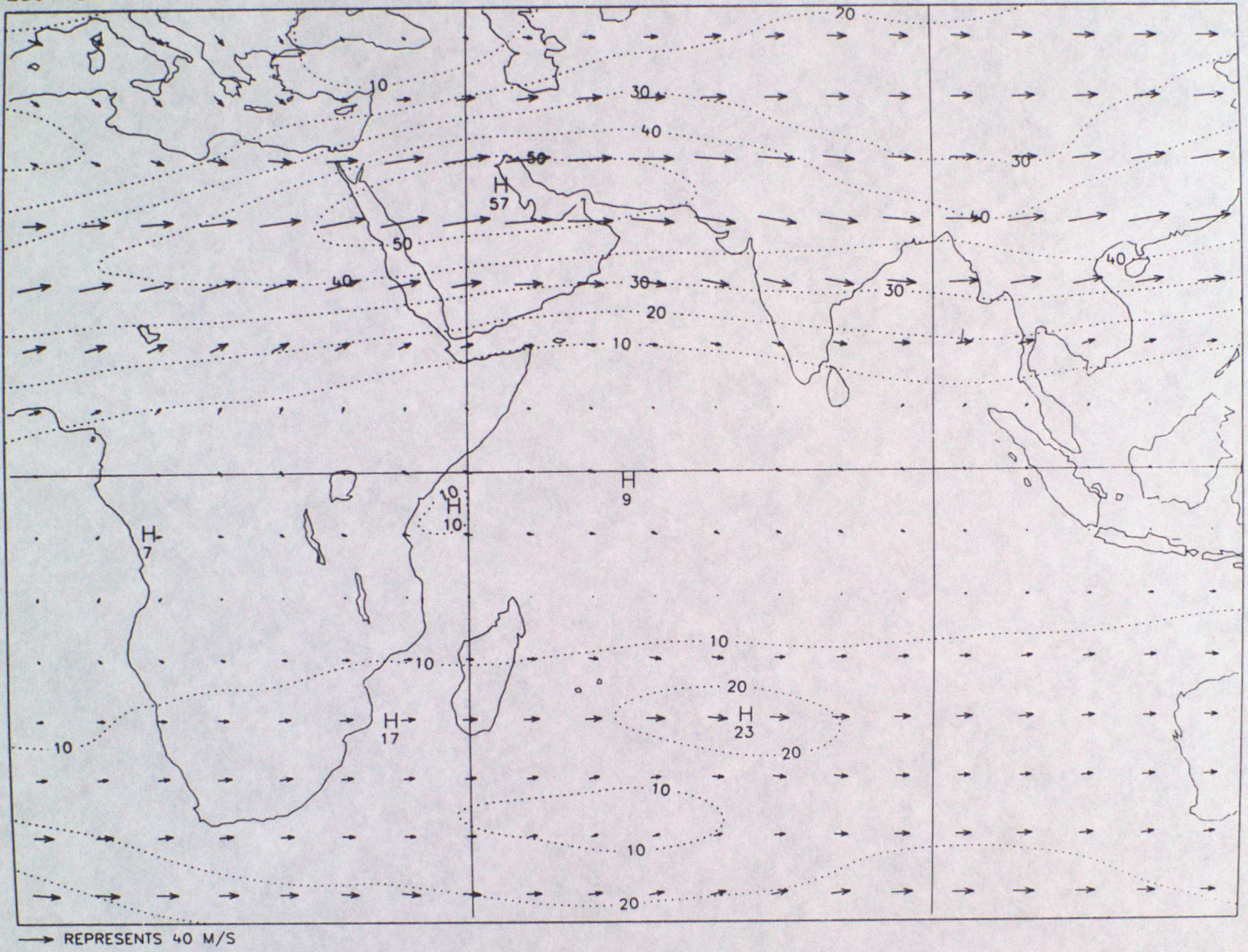
H 9
5
5
H 8
H 6
5
H 6
H 5
H 5
H 2
5
10

→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   FEBRUARY   1990
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
250 MBS.   BETWEEN LONGS. 0 E - 120 E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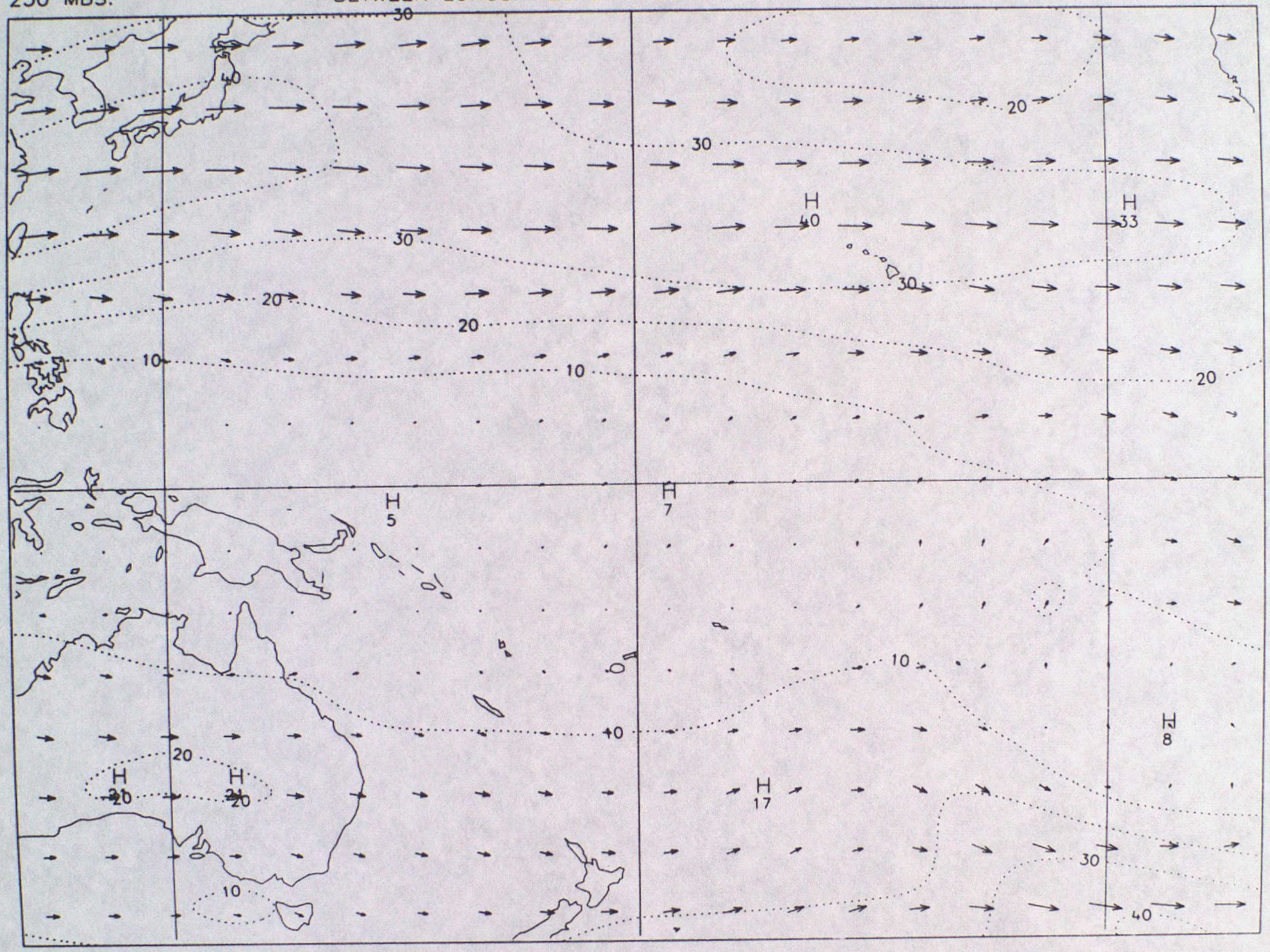
10
H
7
10
20
H
23
20
H
17
10
10
10
20
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. FEBRUARY 1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
250 MBS. BETWEEN LONGS. 120 E - 120 W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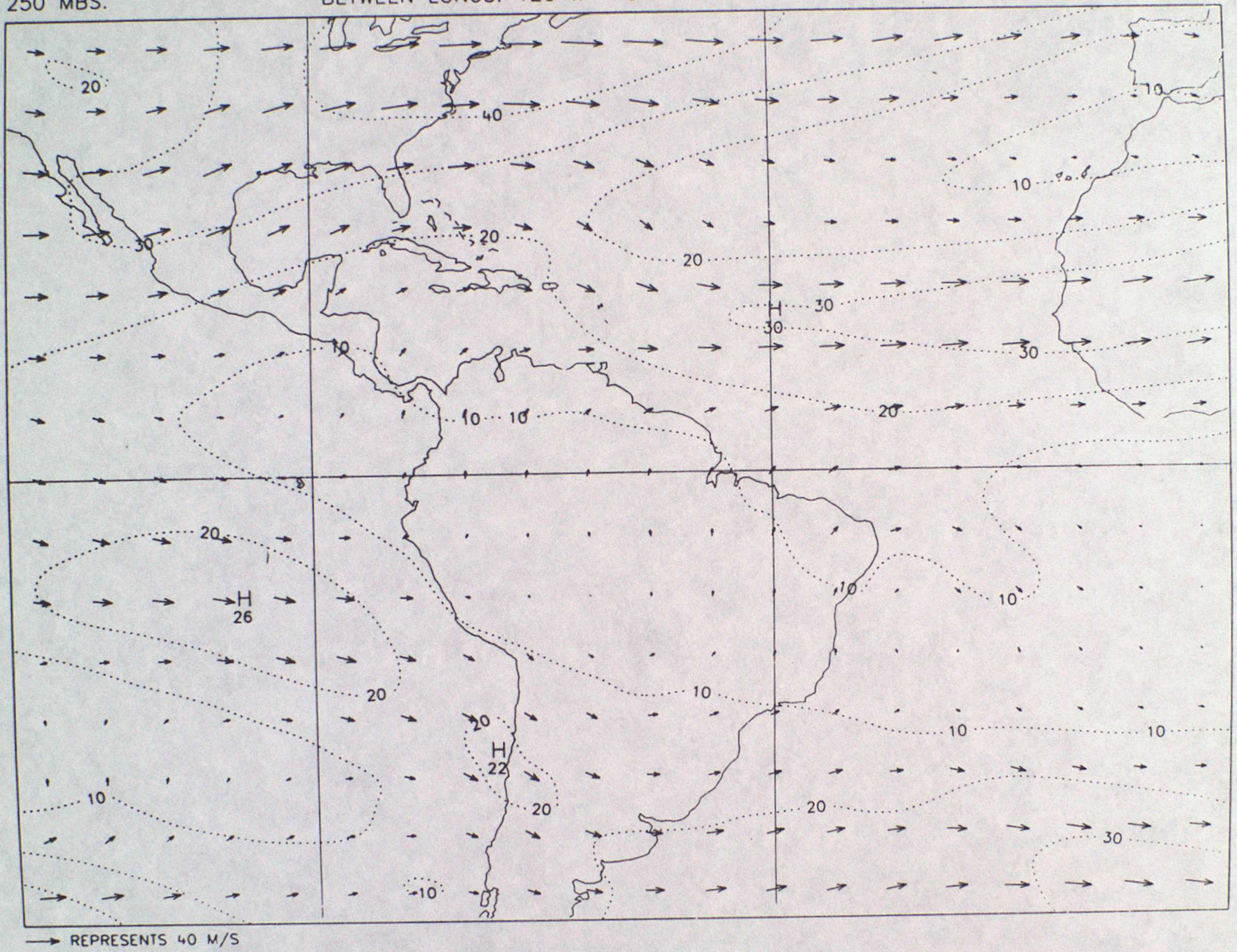
H
8
20
H
21
20
H
21
20
H
17
30
10
40

→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS.   FEBRUARY   1990
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/2/1990 DAY 32 TO 12Z ON 28/2/1990 DAY 59
250 MBS.   BETWEEN LONGS. 120 W - 0 W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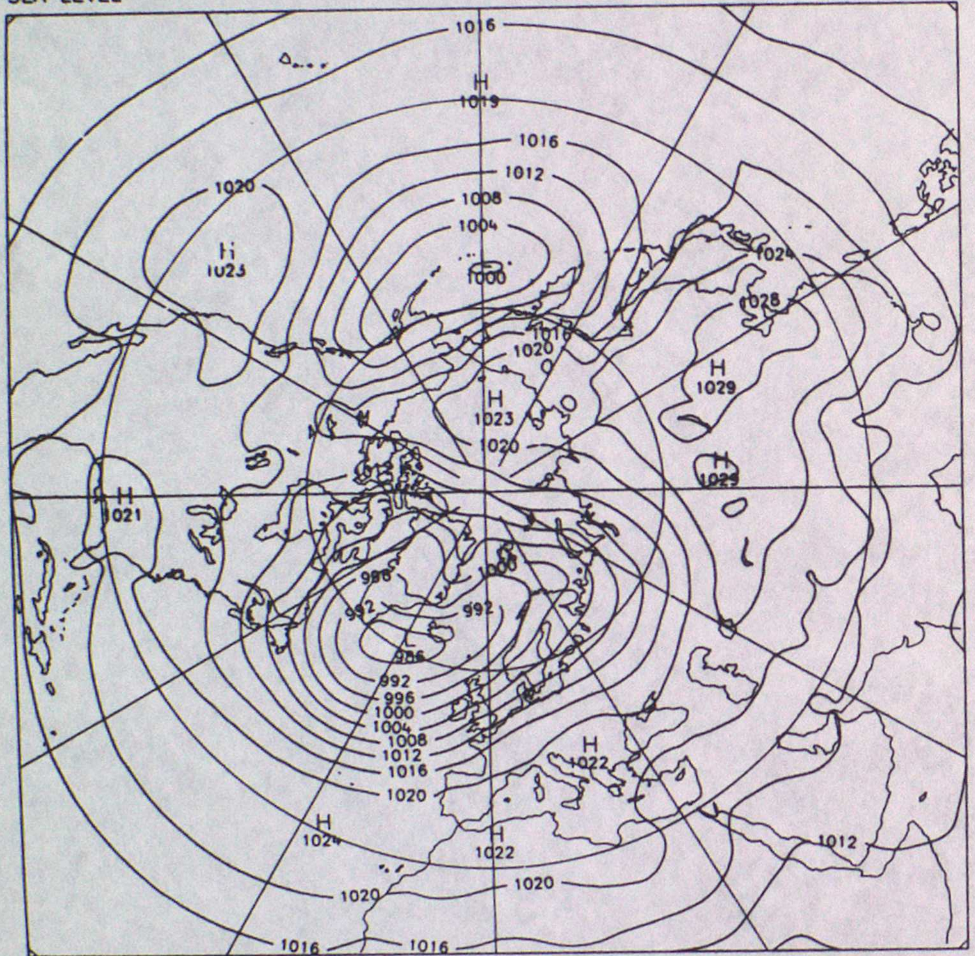
10
20
10
10
H
22
20
20
10
20
30
10

→ REPRESENTS 40 M/S

DECEMBER/JANUARY/FEBRUARY

1989/90

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
PMSL
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
SEA LEVEL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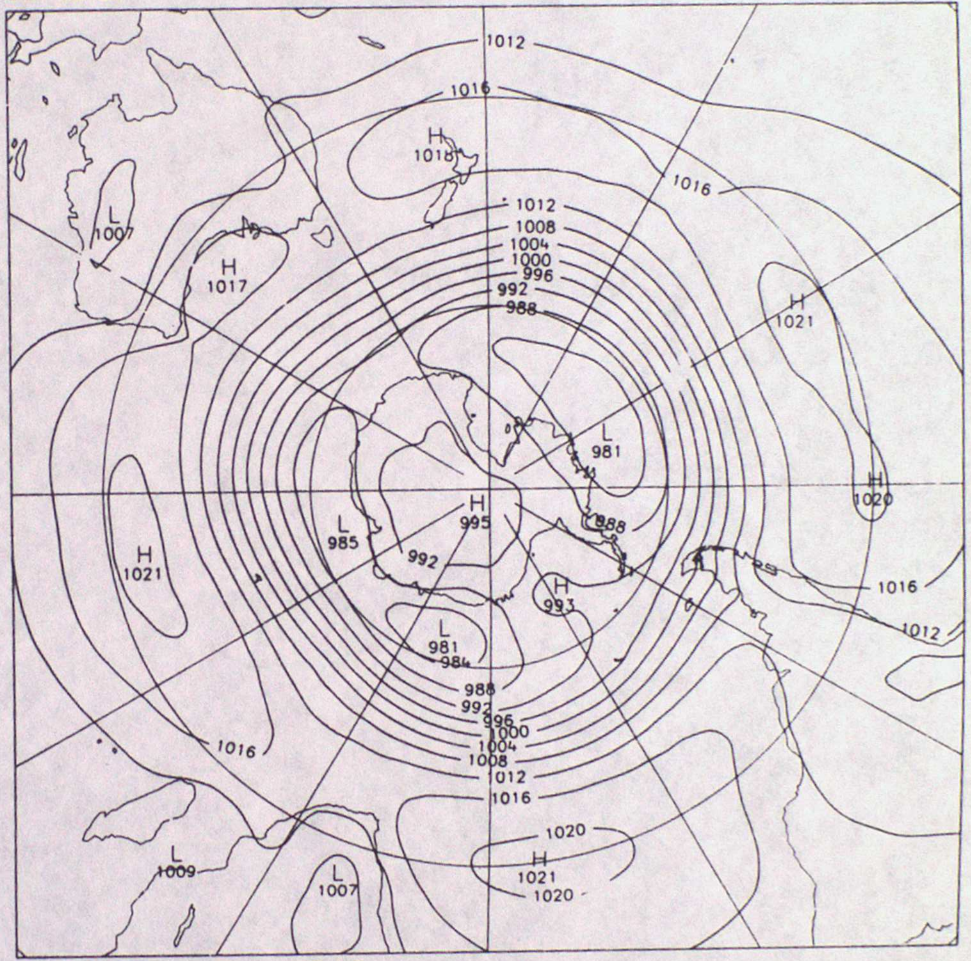
H 1029
H 1021
986
992
992
1000
986
992
996
1000
1004
1008
1012
1016
1020
H 1022
H 1024
H 1022
1012
1020
1020
1016
1016

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
PMSL
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
SEA LEVEL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1012
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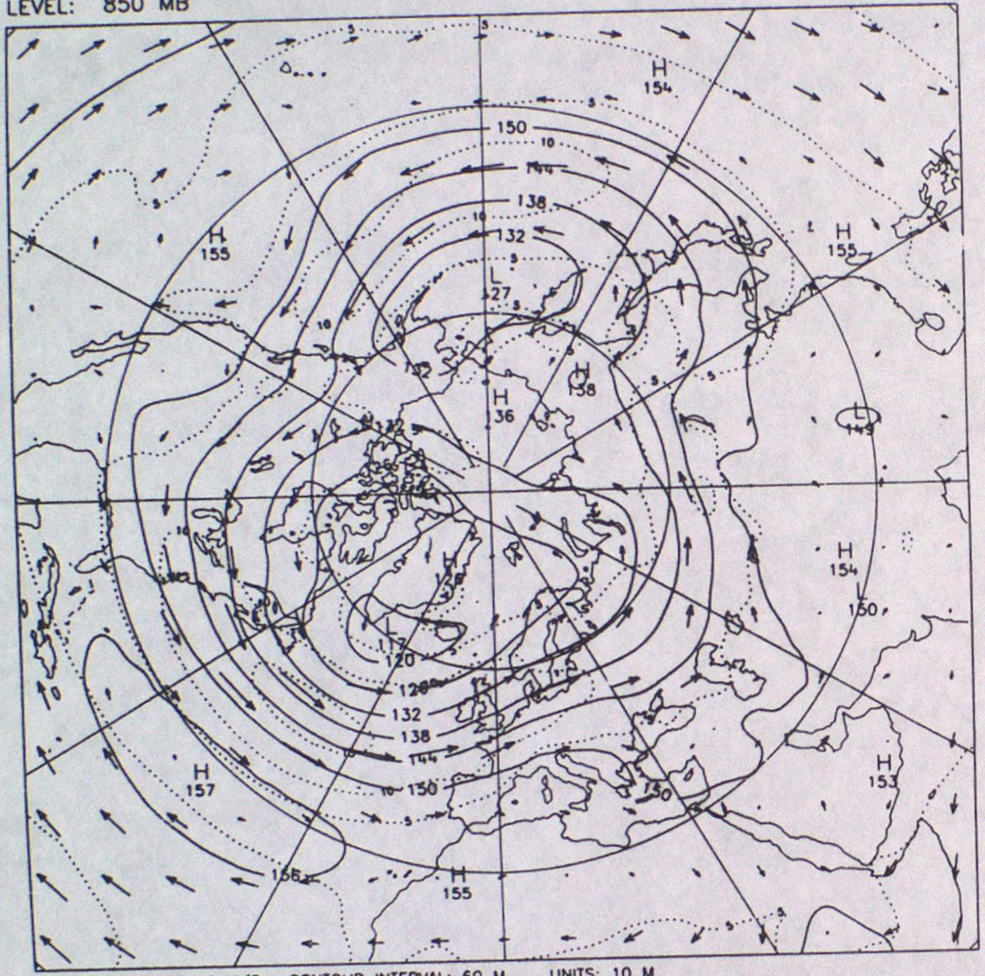
988
H 1021
L 981
H 1020
H 995
L 985
992
988
H 1021
H 993
1016
1012
L 981
984
988
992
996
1000
1004
1008
1012
1016
1016
1020
H 1021
1020
L 1009
L 1007

CONTOUR INTERVAL: 4 MB UNITS: MB

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 850 MB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127
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36
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138
L
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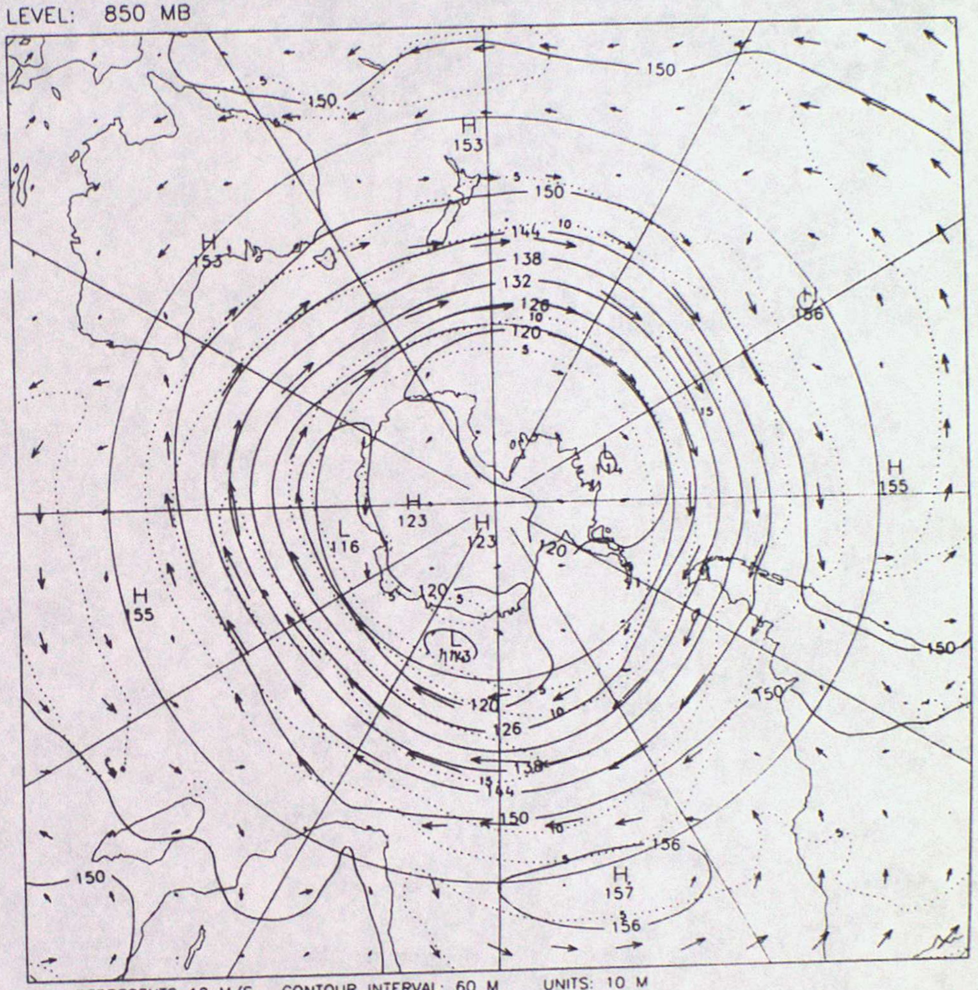
154
150
L
117
120
126
132
138
144
150
H
157
H
153
H
155
156

→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 60 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 850 MB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120
H
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H
155
H
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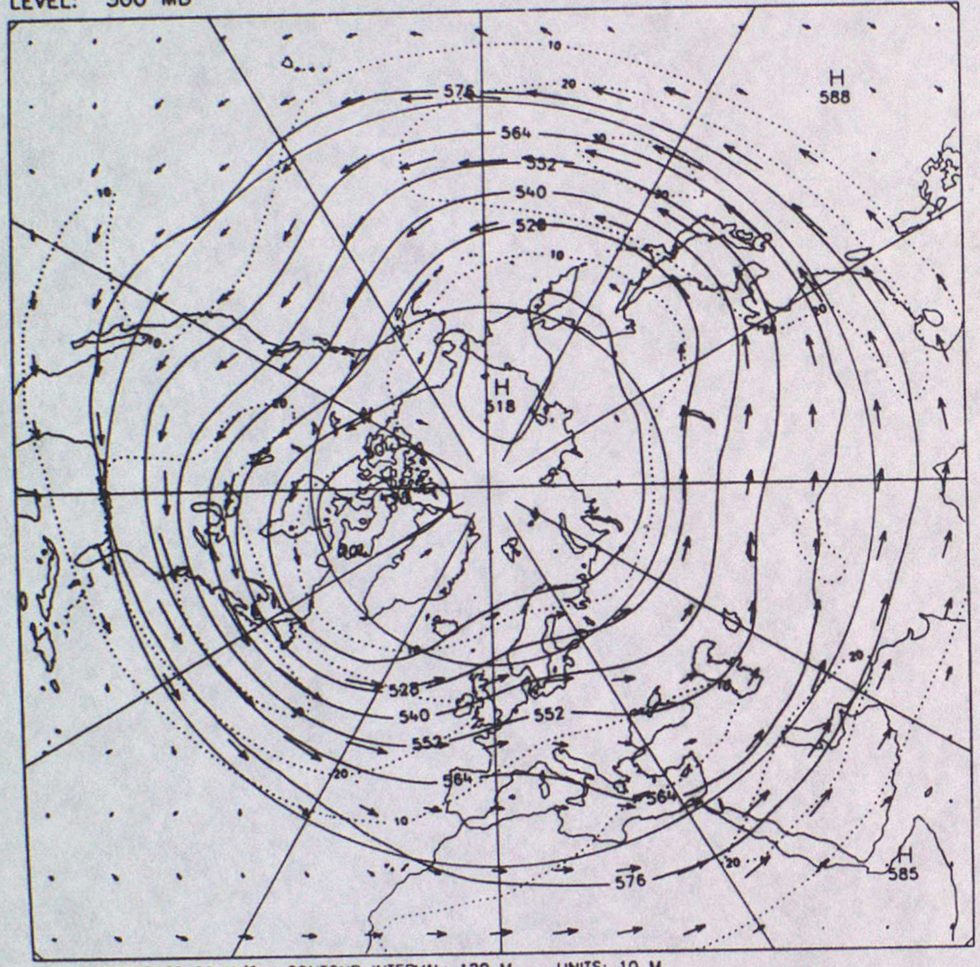
H
123
L
116
120
H
155
120
126
138
144
150
150
156
H
157
156
150

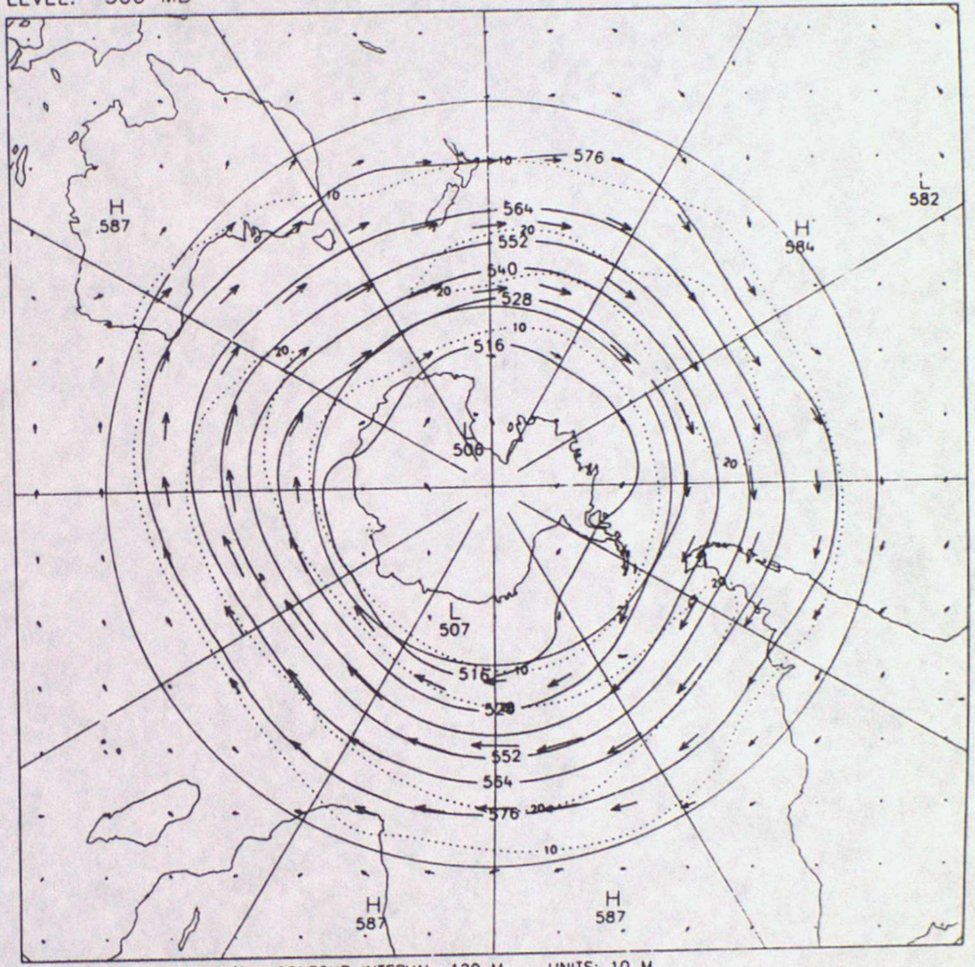
→ REPRESENTS 10 M/S   CONTOUR INTERVAL: 60 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 500 MB


H
588
576
564
552
540
528
10
20
H
518
502
528
540
552
552
564
564
576
H
585

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 500 MB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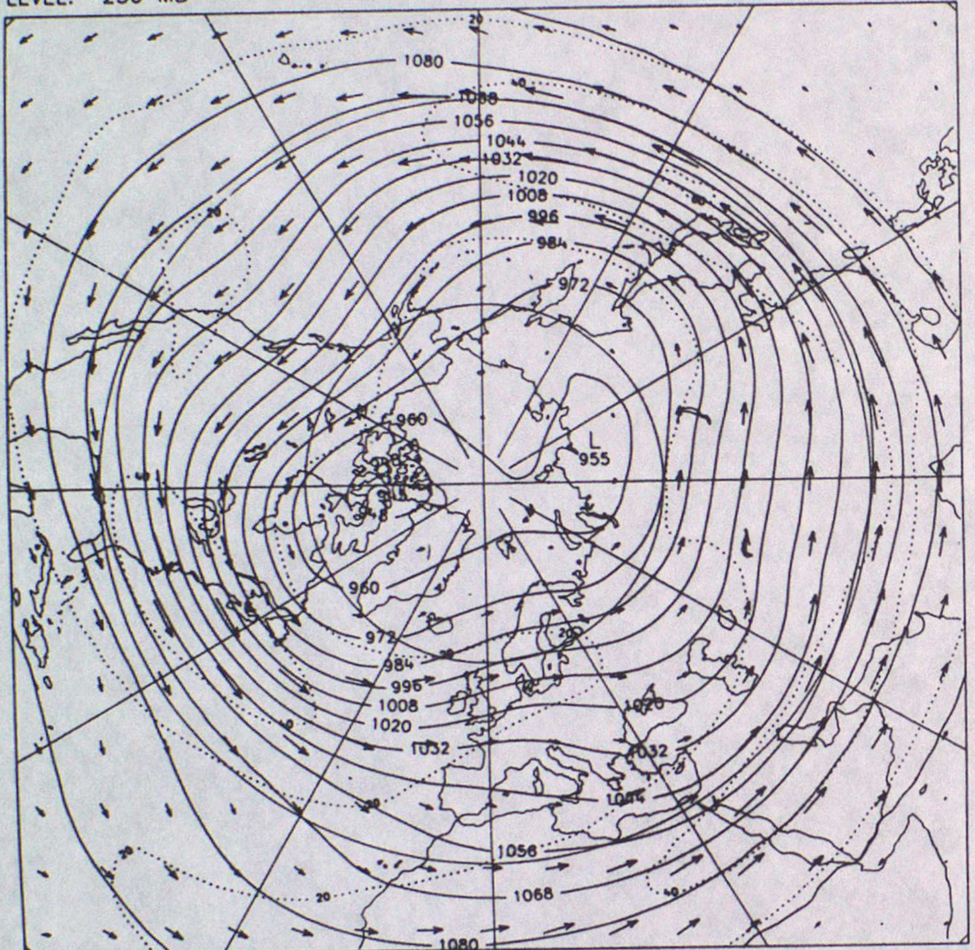
587
576
564
552
540
528
516
L
508
L
582
H
584
10
20
L
507
516
528
552
564
576
H
587
H
587

→ REPRESENTS 20 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 250 MB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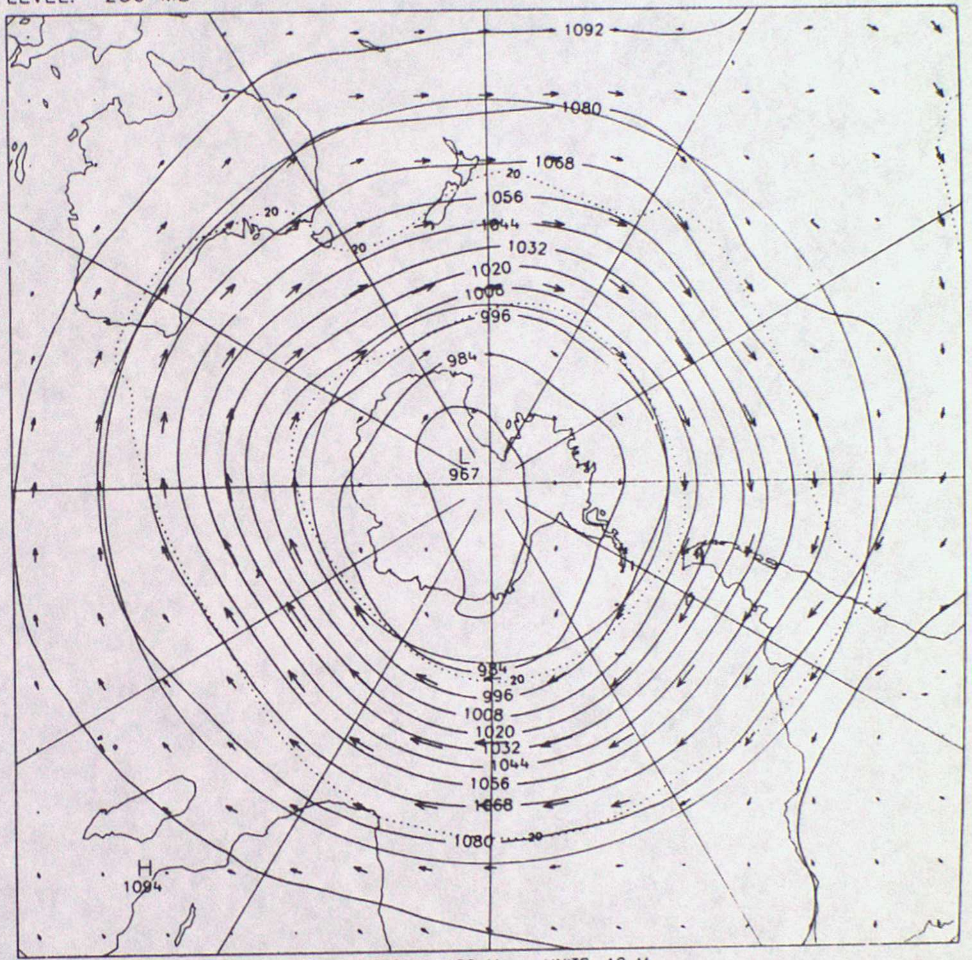
1068
1056
1044
1032
1020
1008
996
984
972
960
L
955
960
972
984
996
1008
1020
1032
1020
1032
1044
1056
1068
1080
20
40

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 250 MB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1080
1068
1056
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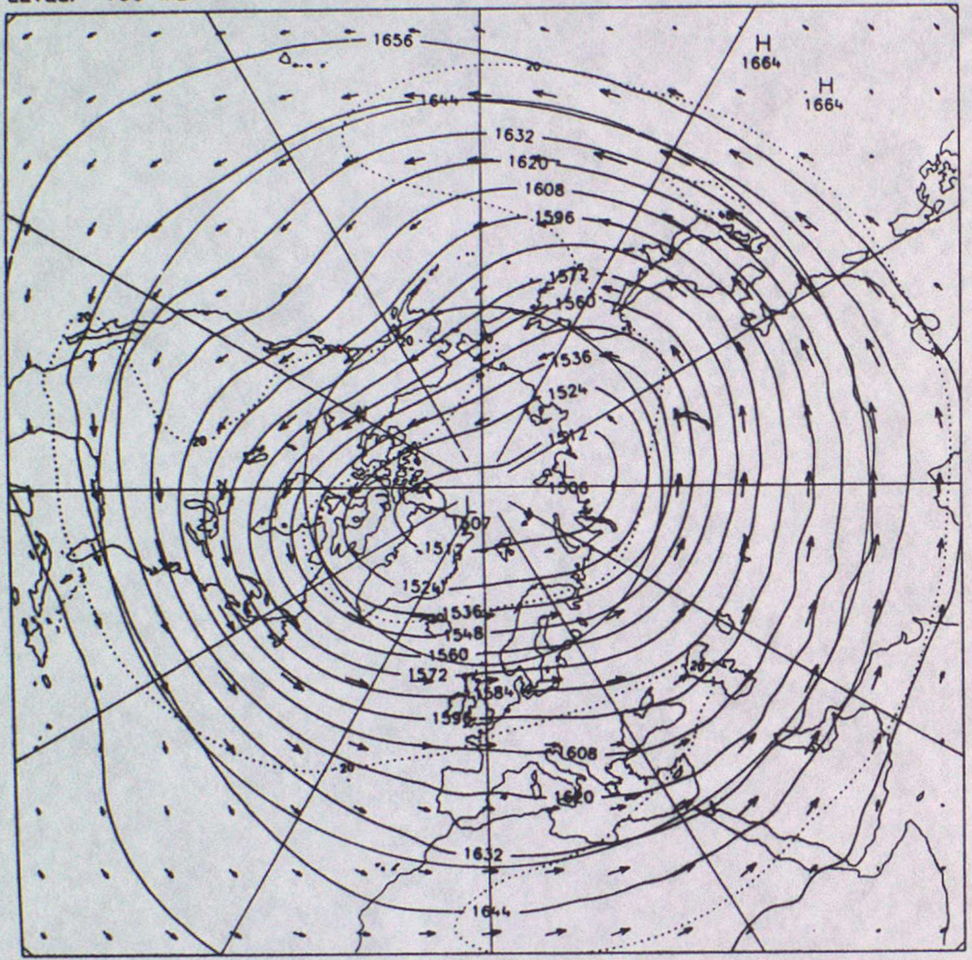
1032
1020
1008
996
984
L
967
984
996
1008
1020
1032
1044
1056
1068
1080
H
1094
20

→ REPRESENTS 40 M/S CONTOUR INTERVAL: 120 M UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 100 MB


1656
20
1644
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1620
1608
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1536
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1512
1506
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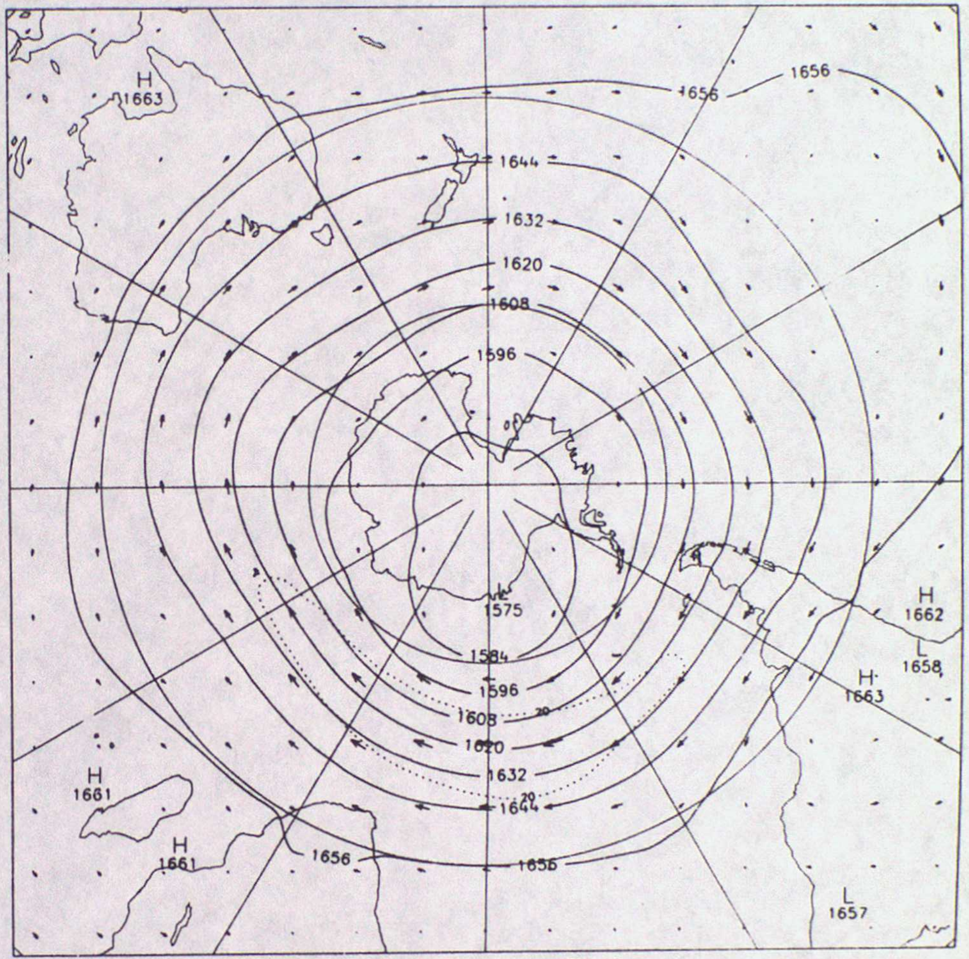
1524
1536
1548
1560
1572
1584
1596
1608
1620
1632
1644
H
1664
H
1664

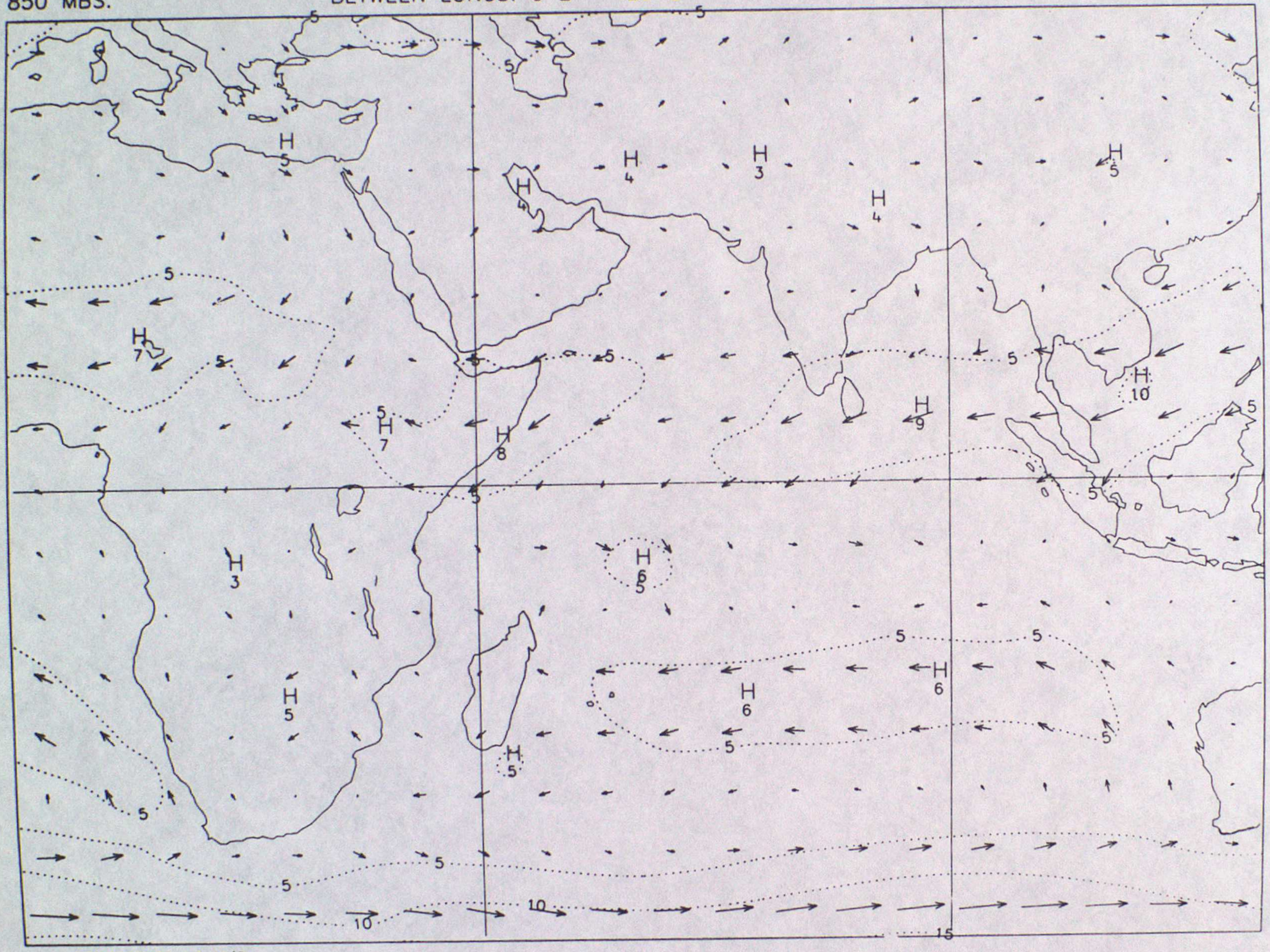
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
HEIGHTS, WIND ARROWS AND ISOTACHS.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
LEVEL: 100 MB


H
1663
1656
1656
1644
1632
1620
1608
1596
L
1575
1584
1596
1608
20
1620
1632
20
1644
1656
1656
H
1662
L
1658
H
1663
H
1661
H
1661
L
1657

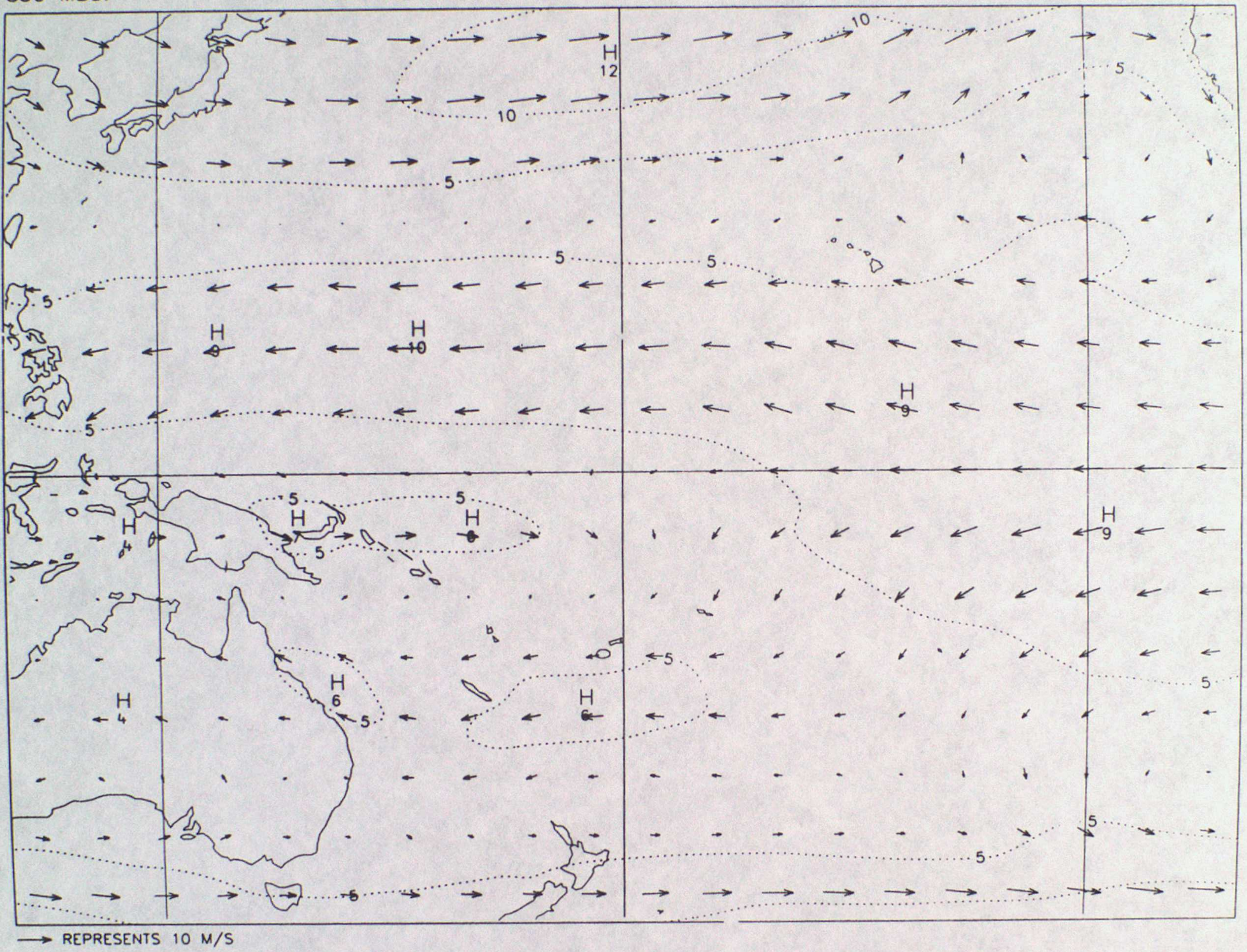
→ REPRESENTS 40 M/S   CONTOUR INTERVAL: 120 M   UNITS: 10 M

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
850 MBS. BETWEEN LONGS. 0 E - 120 E

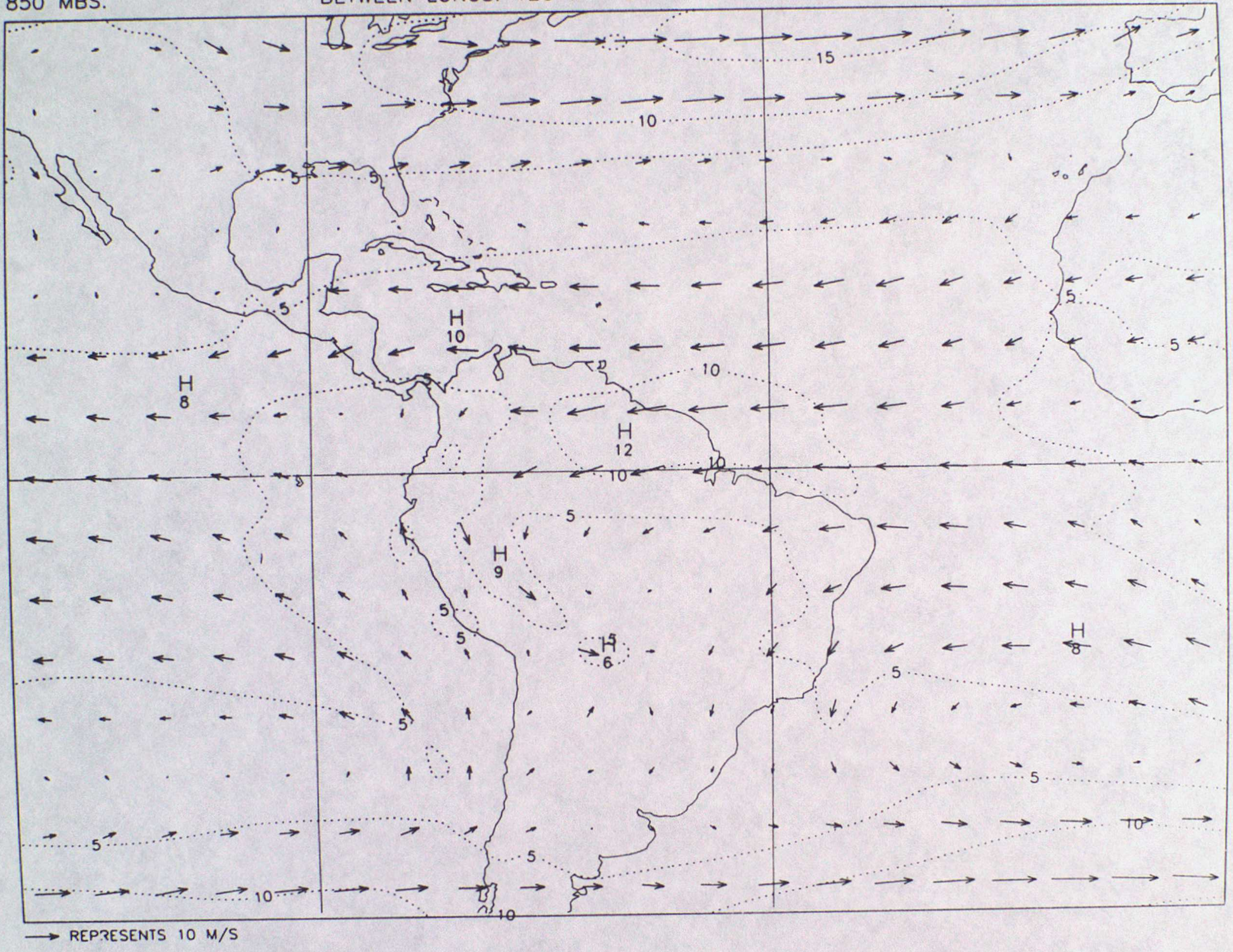

5
H
5
H
4
H
3
H
4
H
5
H
7
H
7
H
8
H
9
H
10
H
3
H
6
H
5
H
6
H
6
H
5
10
15

→ REPRESENTS 10 M/S

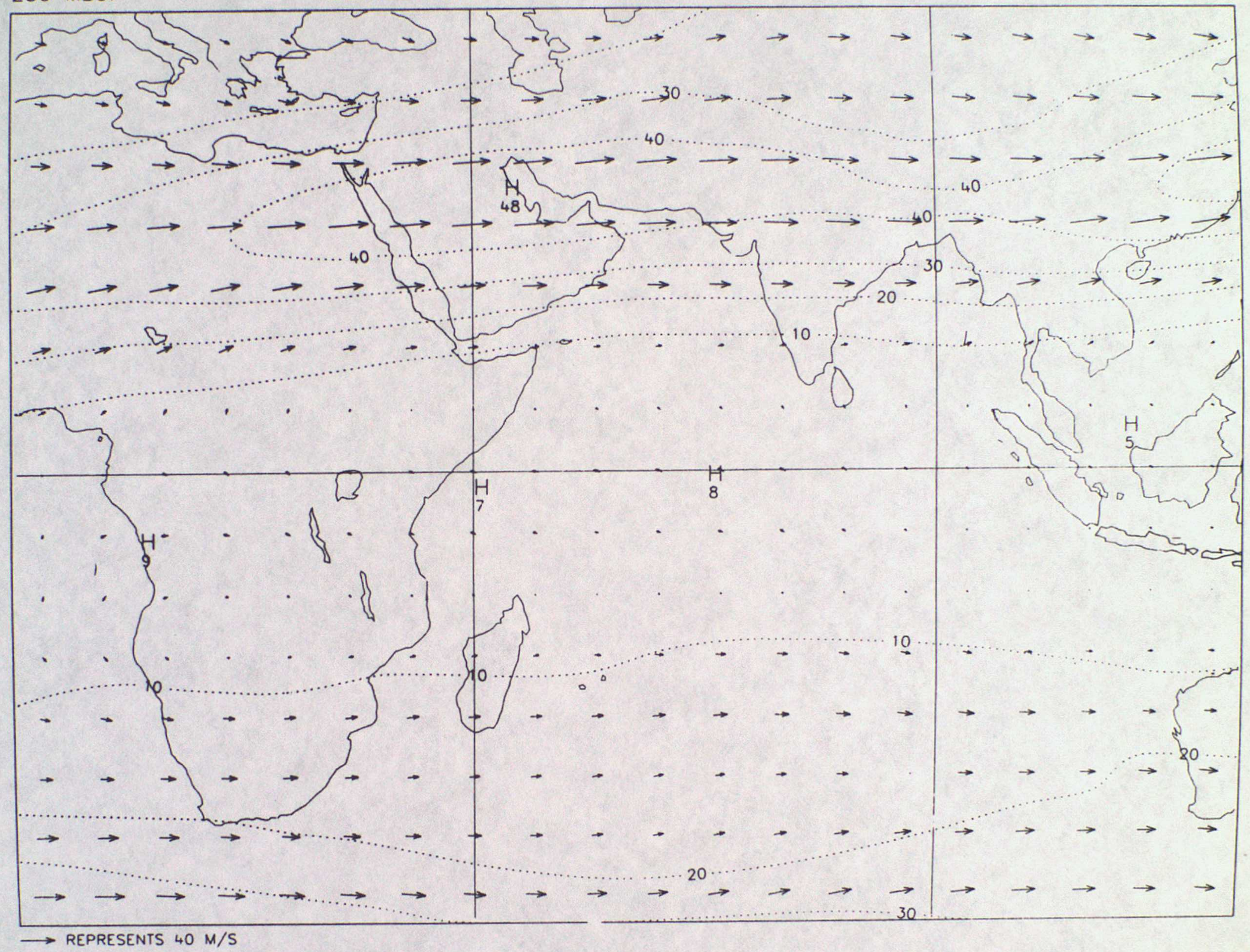
OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
850 MBS. BETWEEN LONGS. 120 E - 120 W


H
12
10
10
5
5
5
5
5
H
H
10
H
9
5
5
5
H
H
H
H
9
H
4
H
6
5
H
H
4
5
5
5
5
5
REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
850 MBS.   BETWEEN LONGS. 120 W - 0 W


15
10
5
H 10
H 8
H 12
H 9
H 6
H 8
10
5
→ REPRESENTS 10 M/S

OPERATIONAL ARCHIVE MEANS.   DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS   BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM   0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
250 MBS.   BETWEEN LONGS. 0 E - 120 E


30
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40
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48
H
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H
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H
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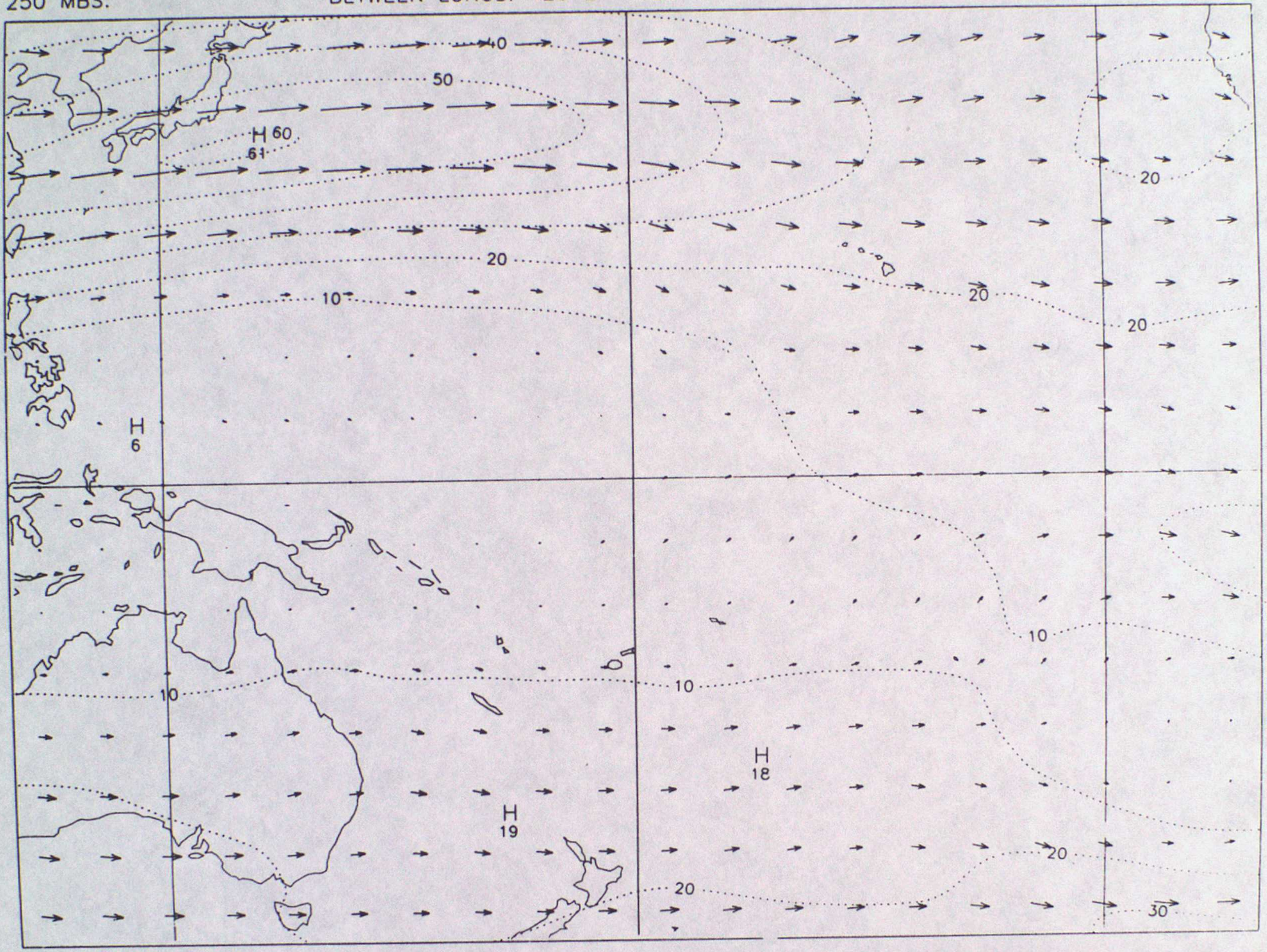
20
30
→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
250 MBS. BETWEEN LONGS. 120 E - 120 W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H 60
61
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18
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19
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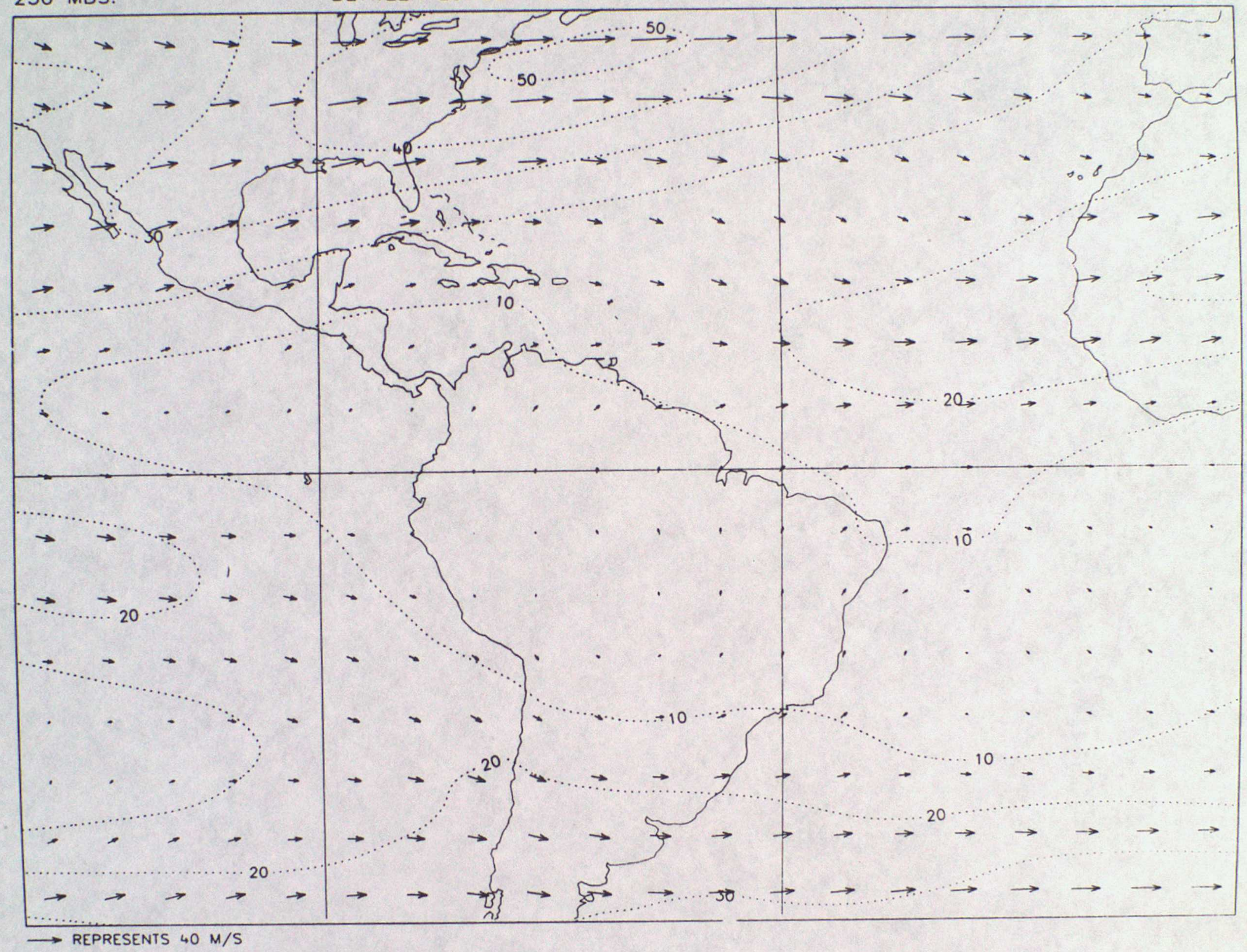
20
30

→ REPRESENTS 40 M/S

OPERATIONAL ARCHIVE MEANS. DEC/JAN/FEB1990
WIND ARROWS AND ISOTACHS BETWEEN LATS. 45 N - 45 S.
AVERAGE FROM 0Z ON 1/12/1989 DAY 335 TO 12Z ON 28/2/1990 DAY 59
250 MBS. BETWEEN LONGS. 120 W - 0 W


50
50
40
50
10
20
10
20
10
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20
20
20
30
→ REPRESENTS 40 M/S